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RAILWAY AGE

A.R.E.A. CONVENTION NUMBER

MARCH 18, 1950

Here's a Good Tip for Everyone who wants to reduce Maintenance on Waste and Vent Lines

It's safe to say that *every* building with sanitary facilities has a corrosion problem . . . and that unless proper safeguards are used, you'll soon be paying for repairs, with replacement not far ahead.

Two of the worst trouble-makers are waste and vent lines. They are exposed to multiple attack from water . . . organic wastes . . . oxygen from the air . . . carbon dioxide . . . and sewer gases, which include ammonia and hydrogen sulfide. Any one of these is a dangerous enemy to pipe life. In combination, they represent a major hazard, and the only practical protection is through the use of a corrosion resistant material.

Wrought iron has been used in these severe services for long periods, and its superior durability has been certified by service records of 50 years or more. In one study of a number of old buildings, wrought iron vents were still serving in one building after 49 years—in two after 48 years . . . and in three others after more than 45 years. In contrast, in a group of eleven buildings where low-first-cost materials had been used for vents, the life *to failure* averaged less than 23 years. In another study of a group of buildings over 20 years old, the engineer estimated the depreciation as 20% for the wrought iron vents, and 90% for the other material. Similar impressive performance figures support the choice of wrought iron for waste lines.

You'll find the reason for wrought iron's unusual durability in its unique composition and structure. Tiny fibers of glass-like silicate slag, threaded through the body of high-purity iron, halt and disperse corrosive attack, and so discourage pitting. Furthermore, the fibers help to anchor the initial protective scale, which shields the underlying metal.

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ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

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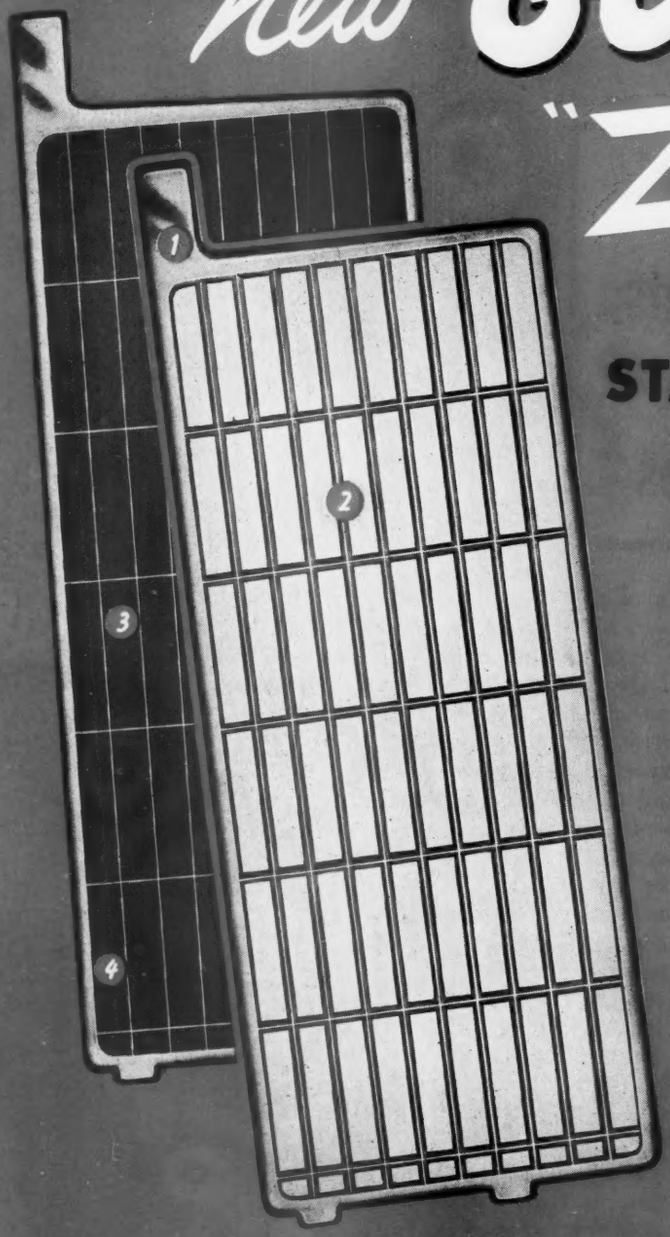

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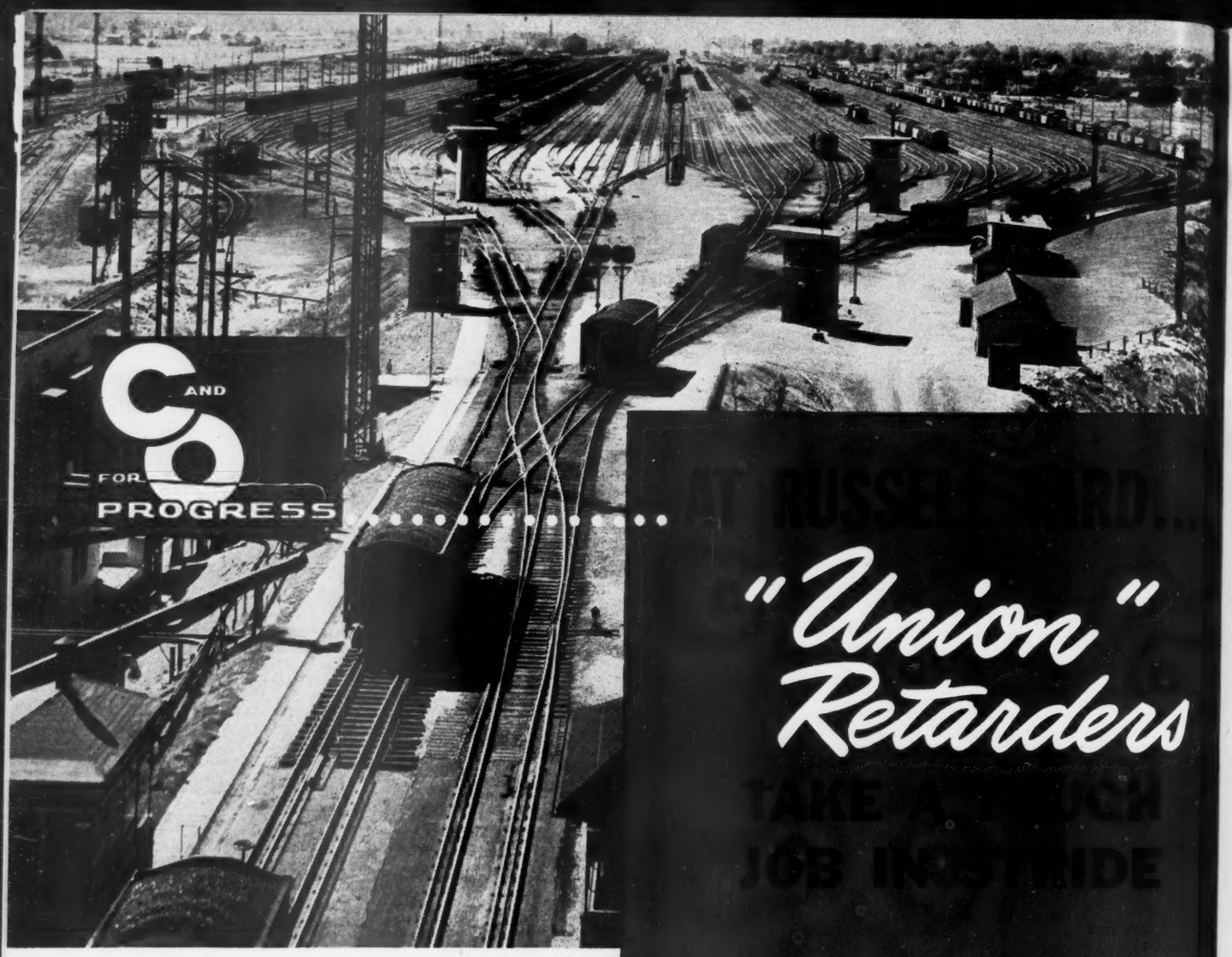

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"Union" Retarders

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WEEK AT A GLANCE

A.R.E.A. CONVENTION: The bulk of this week's issue is devoted to an account of proceedings at the 49th convention of the American Railway Engineering Association. A general review of convention activities begins on page 58, followed immediately by abstracts of feature addresses by F. S. Schwinn, president of the association; J. H. Aydelott, vice-president of the Association of American Railroads, and W. G. Vollmer, president of the Texas & Pacific. Starting on page 64 are abstracts of the reports and recommendations of the association's 21 standing committees, and of the technical addresses which accompanied many of the reports. On pages 60 and 61 are biographies of Walter S. Lacher and Neal D. Howard, retiring and incoming secretaries of the A.R.E.A.; and on page 51 is a brief editorial commenting on its study of rail weights.

OF INTEREST TO ALL RAILROAD MEN: Although they were presented to engineers at an engineering meeting, the talks by Messrs. Aydelott and Vollmer, abstracted on pages 62 and 63, deserve careful reading and continued thought by all railroad men. "The survival of our railroads as privately owned and operated properties may well depend," said Mr. Aydelott, on how well all railroad men state the industry's case to the public. And Mr. Vollmer, in his usual forceful and outspoken style, called on his audience to "speak up" against the "wrong assumptions and tempting promises" that pave the "rosy road to socialism."

IN THE WEEK'S NEWS: Further details of the I.C.C.'s approval of the Bulwinkle-Reed Act pact on car hire, demurrage and storage rules.—President Truman's latest proposals for reorganization of various federal agencies, including some changes which would affect transportation.—Summary of the latest "Monthly Comment" of the I.C.C.'s Bureau of Transport Economics and Statistics.—Schedule for Senate committee transport hearings.—Restoration of passenger service.—Improved type of box car to be made available on lease basis.—Freight car loadings up nearly 25 per cent as coal begins to move.—N.I.T. League on l.c.l. rate increases.—T.P.&W. Dieselization.—Petition for 3.4 per cent increase in freight rates in Canada.—Trainmen's and conductors' presentation to emergency board.

ALUMINUM SLEEPERS: American Car & Foundry has recently delivered to the Union Pacific, the Wabash and the Chicago & North Western, respectively, 11, 10 and 2 new nearly identical bedroom-roomette sleeping cars, built largely of aluminum. The cars are described, with illustrations and a detailed list of the various specialties used in them, in the article which begins on page 52.

EASTERN ROADS GO AFTER IRON AND STEEL TRAFFIC: Railroads in Eastern territory, after conferences with steel industry representatives, have announced plans—reported in the News—to file new reduced rates on manufactured iron and steel products, based on carload minimums of 80,000 lb. The move is frankly competitive, designed to win back to rail haulage much of this heavy traffic, which has been moving in increasing volume over public highways—often in flagrant violation of state laws regulating motor vehicle weights. The new tariffs will probably be filed about April 1, with permission sought to make them effective on 30 days' notice.

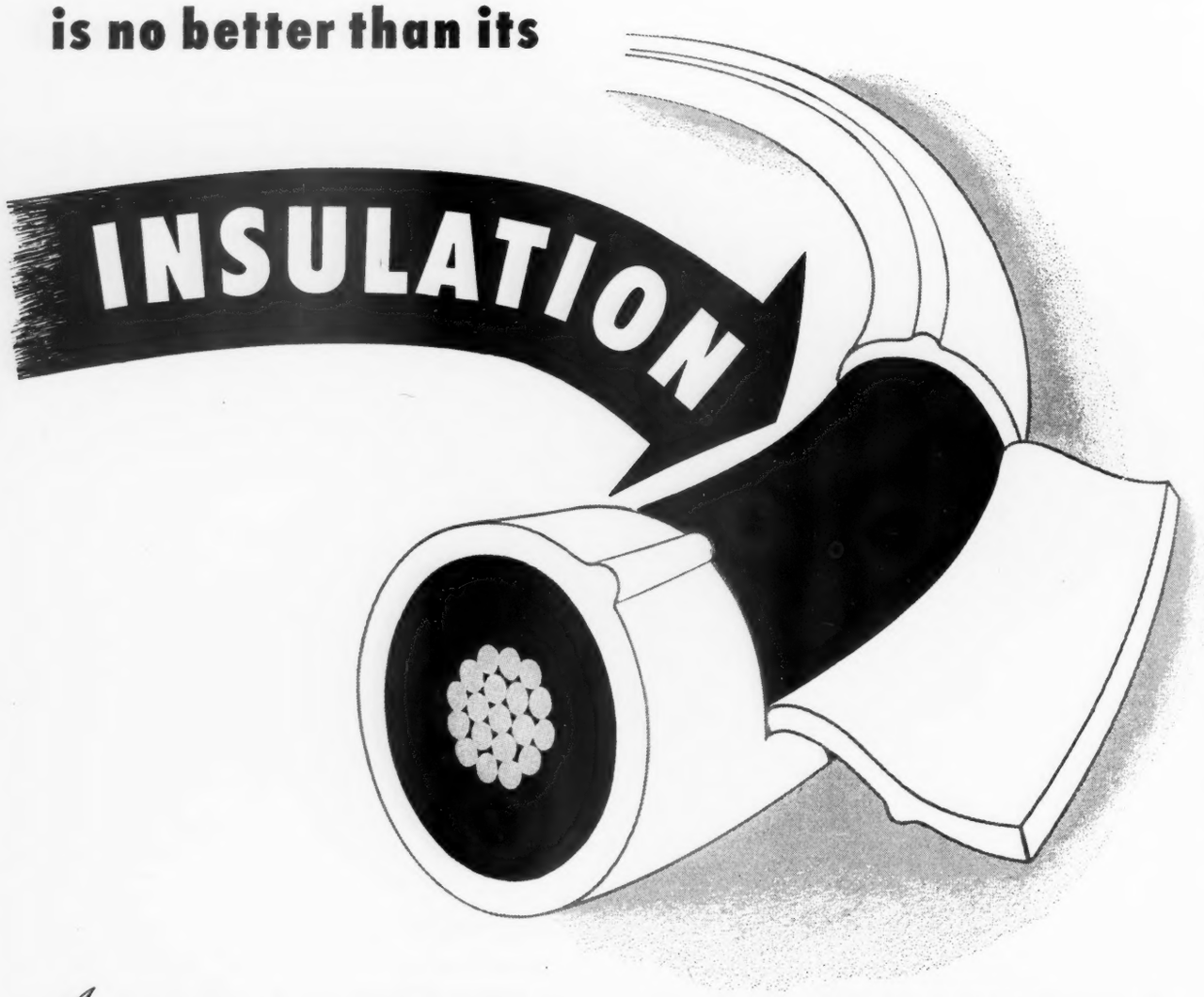
ELEMENT OF POSSIBLE DANGER: Constant emphasis, however justified and however necessary, on the external, governmentally imposed handicaps from which the railroads suffer so severely, carries with it the corollary danger that some railroad men may be tempted to blame *all* their shortcomings on these external factors, and to fail to recognize that some such shortcomings can be corrected by and within the industry itself. Our leading editorial makes this point, among others, in exploring the suggestion of a friendly critic that *Railway Age*—concerned about the welfare of the industry as a whole—"complains too much" about political injustices piled upon the railroads.

HIGHER EXPRESS RATES: Perennial "head-end" deficits may be reduced—a little bit, anyway—by increased payments which may be anticipated for the handling of express traffic as a result of the I.C.C.'s decision to let the Railway Express Agency increase its first and second class l.c.l. rates by 10 per cent. For details, see the News section, which, however, also reports that the commission has denied the railroads' motion which asked it to raise the interim mail-pay increase from 25 to 60 per cent.

CUSTOMERS' PROBLEMS: In railroading, as in life in general, it's always helpful to know the other fellow's point of view. But it's not always easy to find out what it is. Frank discussion, on a friendly basis—constructive criticism—is all too rare. But the New England Railroad Club, at its March 14 meeting, had the unusual privilege of hearing just such a frank and friendly exposition of the shipper's point of view. The speaker was C. H. Beard, general traffic manager of the Union Carbide & Carbon Corp.; his subject, "Some Problems of Our Railroads' Customers." Mr. Beard's remarks are summarized in the News section.

SCHEDULED FOR NEXT WEEK'S ISSUE: Emphasis on freight traffic, with articles on Perfect Shipping Month and other subjects of special interest to shippers and to those railroad men concerned with handling and movement of freight—which, of course, in the broad sense, means *all* railroad men. Also, we anticipate, a news development of far-reaching significance to the railroad industry.

an electrical cable is no better than its



An electrical cable is only as efficient and long-lasting as its insulation. You will find true cable economy *only* in the cable with the best insulation. Because electrical insulation is so vital to cable performance, it is important to know what makes one type of insulation better than another.

There are three basic factors determining the electrical and mechanical characteristics of rubber cable insulation.
1. The type and grade of rubber used in the compound.
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IS THERE DANGER IN TOO MUCH EMPHASIS OF RAILROADS' HANDICAPS?

This paper has been subjected to criticism—privately conveyed and constructively intended—to the effect that we complain too much about political injustices piled upon the railroads; and, as a consequence, that we neglect an opportunity to encourage emulation of the example of those railroads which, despite the handicaps the industry suffers, nevertheless manage to earn a "living wage" for their security owners. This criticism merits some attention. For one thing, it may be said that the man who detects a dangerous outbreak of fire and is hastening to rally the fire-fighters may, perhaps, be excused if he neglects to mention the detail that the fire has not yet taken possession of some few rooms in the burning building.

There is no completely satisfactory answer to the question of emphasis in weighing the complex problems of such a large and vital industry as the railroads. Discussion, whether in print or from the platform, is unavoidably similar to the spotlight in a theater—it cannot give prominence to one activity without leaving all the others, at least temporarily, in the shadow. The person doing the discussing just has to assume that his audience will credit him with giving due weight to other factors than those he has time or space to mention—otherwise nobody could explore one aspect of transportation without taking on the impracticable obligation to produce a book or even a whole library.

It should be understood, then, even when it is not specifically mentioned, that a handful of railroads with such favorable circumstances as intense territorial growth, limited passenger and terminal operations, long average haul, sound finances and excellent management are doing relatively well, compared to the performance of the industry as a whole. For example, in the tabulation of operating revenues and expenses of Class I railroads for the year 1949, published in the February 18 issue of this paper, 29 railroads were shown with operating ratios of 70 or less, although only 6 of these roads are in the "large" category. Fourteen railroads (of a total of 126) reported more net railway operating income in 1949 than in 1948. Numerous other comparisons of such indices could be given which would select other companies as doing relatively well, all circumstances considered. At a recent meeting of securities analysts, a speaker listed nine railroads which, in his opinion, occupy an exceptionally attractive position from an investment standpoint because favorable factors are operating strongly in their behalf, with unfavorable influences at a minimum.

Necessary Realism

It is unrealistic for anyone who is weighing the fortunes of the railroad industry to neglect to take into account the fact that "the railroads" are not an entity, but are composed of several hundred separate companies, not all of which go broke when times are

terrible and not all of which are prosperous, even when general conditions are most favorable. Anybody can prove anything, good or bad, about "the railroads" at any time, if permitted to attribute to the entire industry the specific performance of only a few companies. This paper assumes that this fact is well known to its readers and that, from the figures published in these pages and obtained elsewhere, they are taking all the advantage they possibly can of comparisons between the performance of their particular company and that of other companies similarly situated.

It has long been an axiom that the railroads do a pretty good job in competing with each other—i.e., of endeavoring, in service and otherwise, to "keep up with the Joneses" in their own bracket of the business.

The press of the industry helps them in their efforts to keep abreast of each other but, beyond that, journalistic assistance is particularly serviceable when it calls attention to conditions which lie outside the everyday experience of intra-railroad competition. It "comes naturally" for a railroad manager to know what business he is losing to a parallel railroad; and to meet this competition by appropriate measures of his own. What does not come so naturally or easily is to find out what things the non-railroad competition is doing or threatening, and to discover effective means of collaborating with his railroad competitors in meeting the threat from the "outside."

One Element of Danger

We do not, therefore, apologize to our well-meaning critic for emphasizing as strongly as we do the "outside" factors which are so deeply injuring practically every company in the railroad industry. If these factors could be corrected, the railroads which are now managing to earn something for their owners would become highly prosperous, and the "border-liners" would become relatively prosperous. A "good" railroad, then, might earn as much as a "good" automobile manufacturer does, instead of witnessing, as now, one single automobile manufacturer with net earnings larger than those of all the railroads combined.

There is one aspect of our critic's questioning that is particularly important—that is *the danger that with external handicaps so severe, and being complained of so much, some railroad men may be tempted to blame ALL their failures on these external factors,* whereas some shortcomings are, probably, strictly homemade. It should be, therefore, perfectly legitimate to ask any railroad man who complains, with justice however obvious, of the obstacles to prosperity which come to him from the "outside," such questions as the following:

1. Are you giving the very best service to your customers which the "state of the art" affords and which is consonant with reasonable economy of operation? Are you cooperating fully with your connections to this end—for the good of the industry as a whole?

2. Have you, within the limits of sound economy, sought out and adopted all the available methods and devices to promote more efficient operation—in order to improve your earnings and give you more resources to use in the recapture of additional profitable traffic?

3. Have you gone as far as possible in combating by all legitimate and effective means the regulatory, legislative, and union-rules handicaps which unreasonably restrict your freedom to act in the public interest?

It is not by industry-wide effort alone, or even principally, that the inimical "outside" influences operating against the railroads will be overcome, but primarily by the activity of individual railroad men and managements—the same people who operate the railroads efficiently from day to day; and any railroad man who interprets a citation of the industry's political difficulties as a blanket explanation which excuses all instances of his failure to show satisfactory results in his own operations is doing no favor to his industry, to his employer, or to himself. As long as some railroads are able to do relatively well in spite of political obstructions, these roads constitute a challenge to all railroads to try to do equally well.

The conclusion is inescapable that "minority" opinions, such as those of our friendly critic which have been reported here, are constructive and helpful even though some of the contentions must be rejected. The opinions of such critics undoubtedly deserve more "spotlight" and more public discussion than they usually get. More of these "minority" opinions will receive attention in this space in future issues.

GOOD LIGHT REPAIR TRACKS AND BUSINESS

The efficiency of a railroad's light repair tracks is too seldom considered in the bearing it has on freight traffic volume. The fact is that the layout, equipment and operation of these tracks can substantially affect the speed and reliability of railroad freight service, two important factors in meeting truck competition.

The situation of the light repair tracks should be a matter of immediate and growing concern to top management. The more modern freight cars operate longer periods between shoppings for complete overhaul, which will increase the proportion of total work being done on light repair tracks. No one department can do all that needs to be done to bring the efficiency of these tracks to a maximum, which is another reason why the attention of top management

is required. For example, the operating department is involved because the repair area renders a service to that department; the engineering department is involved because it handles the construction work; the mechanical department is involved because it operates the facilities.

The final decision on improving an existing light repair track, or locating and laying out a new one, must, therefore, be made by the executive officers. The benefits to the competitive position of the road to be derived from efficient light-repair-track operation are certainly sufficient to justify the time for a thorough study. Such benefits, furthermore, suggest that the final decision as to location and design be made on the basis of mutual benefit to all departments involved, and not for reasons favoring any one department, as might be the result if the entire project were to be left up to just one of the departments.

Details ought to be worked out by the department to which those details are of most importance. It should, for example, be mainly up to the engineering department to determine the kind of building construction and the type of track ballast and paving. The operating department should have the biggest say-so regarding the tracks connecting the repair area with the classification yard. The mechanical department should decide the type of spot system which would permit the most economical repairs, whether part of the area should be enclosed in buildings, the extent to which roadways should be employed, the location of air lines and welding equipment, and the amount and type of such equipment as fixed cranes, automotive cranes, lift trucks and jacks.

Final details can be worked out within and between departments; the important thing is to bring light repair tracks to peak efficiency for economy of operation, and to peak speed to expedite the movement of freight cars. With today's intense truck competition it is not enough to offer fast and reliable freight train *schedules;* delays to individual cars for repairs must be minimized, both in number and in the time it takes to make the repair when one becomes necessary.

STUDIES SHOW ECONOMIES OF HEAVIER RAIL SECTIONS

Railway managements searching for effective means of lowering the maintenance ratios of their fixed properties will find it profitable to consider carefully the current recommendations of the American Railway Engineering Association, as reported concisely in this issue.

The association held its forty-ninth annual meeting in Chicago on March 14-16, with results which are recorded in these pages. While necessarily giving attention to a wide range of detail about construction and maintenance activities, it will be found that increased inquiry has been directed toward economic problems—studies which definitely point the way to large savings.

One of the association's most informative studies deals with the weight of rail—a matter of importance, because many railroads have been ultra-conservative in the adoption of the heavier rail sections (generally considered to be those of 131 lb. and over). Recognition of the economic value of heavier rail has come slowly because of the scarcity of factual data based upon experience, comparing the maintenance cost and traffic life of various rail sections under actual service conditions. Accumulating evidence in recent years by those roads that have gone to the heavier sections points to substantial economies from the heavier sections, especially as track labor costs have risen.

The current report of the Rail Committee of the A.R.E.A. on the Economic Value of Various Sizes of Rail reveals specific information on this situation.

This report presents two service studies—one on the Illinois Central, comparing 112-lb. rail with 131-lb. rail over a period of five years, employing 1944 prices to permit a true comparison of all costs for labor and material, and the other on the Pennsylvania, which compares 155-lb. PS, 133-lb. RE, and 100-lb. PS rail sections, on the basis of an annual traffic density of 38,000,000 gross tons and 1948 unit costs for labor and material.

In the Illinois Central test, allowing for the longer estimated life of 131-lb. rail over 112-lb. rail, the annual investment cost of the 131-lb. section is shown to be $97 per mile per year, or 6.5 per cent, less than for the 112-lb. section. The savings in track maintenance labor on the 131-lb.-rail track, based on actual requirements over the five-year study period, averaged $163 per mile per year, and estimated annual savings in tie replacement costs were set at $91. Thus, a net saving of $351 per mile per year is indicated for the 131-lb. rail over the 112-lb. rail, under the conditions presented in this study.

In the Pennsylvania study, taking into consideration the longer life of the 155-lb. PS section, the annual carrying charges for rail replacement are shown as $21 per year per mile more than for the 133-lb. RE section.

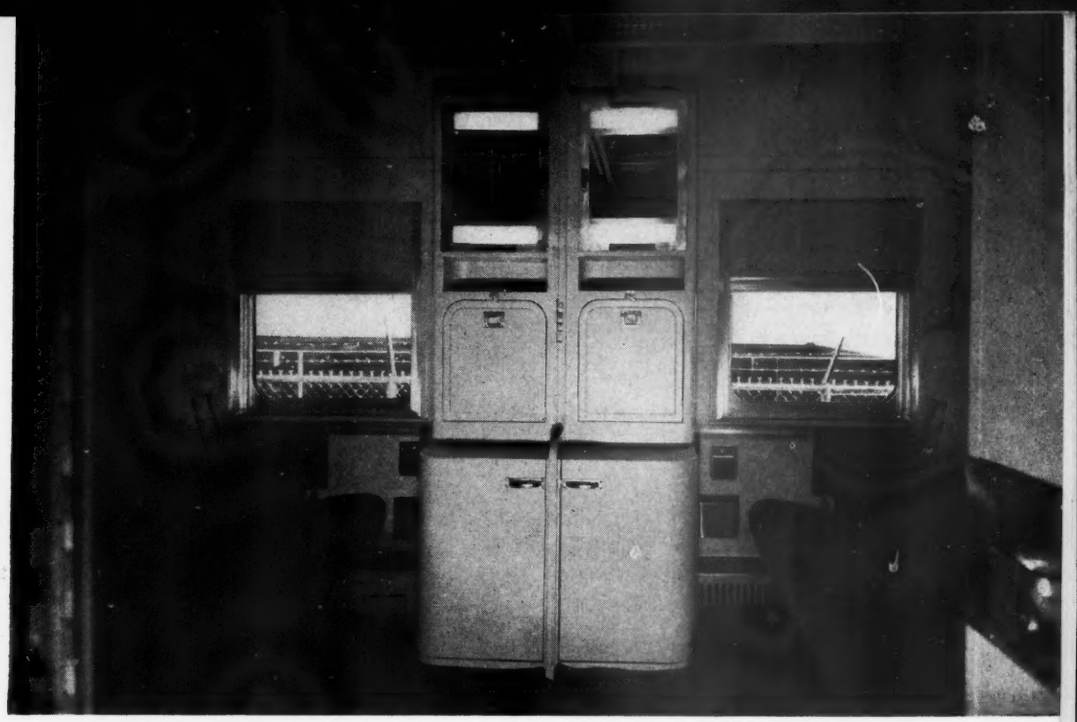
However, the annual savings in track labor are shown as $1,278 per mile per year for the 155-lb. PS section compared with the 133-lb. RE section; savings in tie renewals as $54; and in ballast replacements as $52. Thus, according to the study, a net saving of $1,363 per mile per year is indicated for the 155-lb. PS section over the 133-lb. RE section.

Compared with 100-lb. PS section the net saving effected by the 155-lb. PS section is shown as $4,050 per mile per year.

Aluminum Sleeping Cars for Three Roads

Single design, with 4 bedrooms and 12 roomettes, built by American Car & Foundry for Union Pacific, Wabash and Chicago & North Western

Above—Aluminum-alloy sleepers with 4 bedrooms and 12 roomettes built by the American Car & Foundry Co. Below left—The roomette seat extends from the side of the car to the corridor partition. Below right—The porter's station. The berth is stored in the ceiling



A pair of bedrooms en suite

Twenty-three sleeping cars, each with 4 bedrooms and 12 roomettes, have recently been delivered to three railroads by the American Car & Foundry Co., 11 to the Union Pacific, 10 to the Wabash and 2 to the Chicago & North Western. All of these cars are alike in structure and differ only in certain mechanical and electrical details. The bedrooms are all of the transverse type and have upper and lower berths. Two rooms in each of two pairs are separated by folding partitions and may be thrown together. The roomettes are 7 ft. 3 in. in overall length and the wardrobe is in the end of the room beside the folding wash basin. The seat occupies the full width of the room from the side of the car to the aisle partition. Beds are 6 ft. 4⅞ in. long.

With the exception of six of the Wabash cars they are all intended for use in joint service. The exteriors of the Union Pacific and the C. & N. W. cars are finished in U. P. colors. Wabash standard blue is used on the exteriors of the Wabash cars. The interior scheme of decoration is the same in all of the cars, and consists of two combinations of green, brown and tan. In one pair of bedrooms the ceiling, outside wall and carpet are green and the inside wall and partition, tan. The upholstery in these rooms is beige. This same arrangement of colors is employed in six of the roomettes, three on each side of the aisle, placed so that they are not opposite each other. The other pair of bedrooms and six roomettes have tan ceilings and outside walls. Here green is applied to the inside wall and partition. The carpets are brown and the upholstery rust. Corridor walls are tan and the carpet green. Roomette curtains are brown.

The Car Bodies

Except for the underframes and diaphragm end posts the car bodies are of aluminum construction, the sides being of the girder type. The structures are essentially the same as those of the club and cafe-lounge cars delivered to the Union Pacific and the C. & N. W. during the summer of 1949* and have cast-steel combination bolster, end sills, buffer and draft sills built into the low-alloy high-tensile steel underframe. The upper floor is a dense Armstrong cork over a light-density cork on a corrugated stainless-steel base.

Sides, ends, roof and floors of all but three of the cars are insulated with 3 in. of Ultralite Fiberglas. Three of the Wabash cars have the same thickness of Stonefelt Type A. The framing is insulated from the inside finish in order to break any metal contact.

The pier panels, frieze panels, head lining and end lining are finished with tempered Presdwood. Permanent partitions are of ½-in. Plymetl. The folding partitions between bedrooms are 3/4-in. Plymetl, sealed at the edges. Doors are also Plymetl.

The breather-type double-pane windows have ¼-in. safety glass inside and ¼-in. Solex glass outside. Emergency sashes are placed in the corridor windows. These are directly opposite the doors to the bedrooms and can be removed from the inside to accommodate stretcher cases.

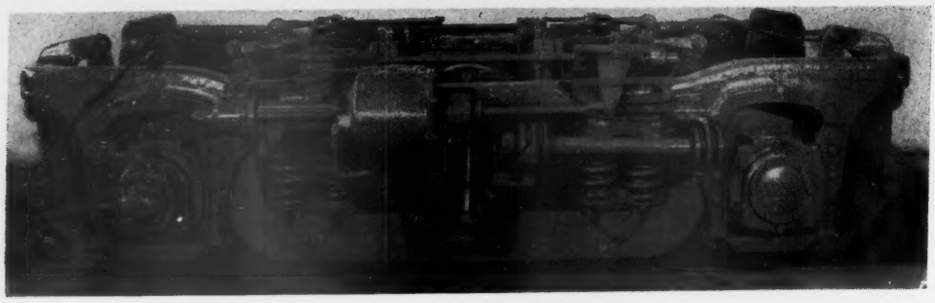
The cars are carpeted throughout, except for the toilet, the corridor at the ends of the car and the porter's area. At these locations, 3/16-in. rubber is laid. Under the rubber the cork surface is leveled and covered with ⅛-in. of tempered Presdwood, cemented in place. The carpets are laid on 3/8-in. Kem-blo carpet pads.

Air Conditioning System

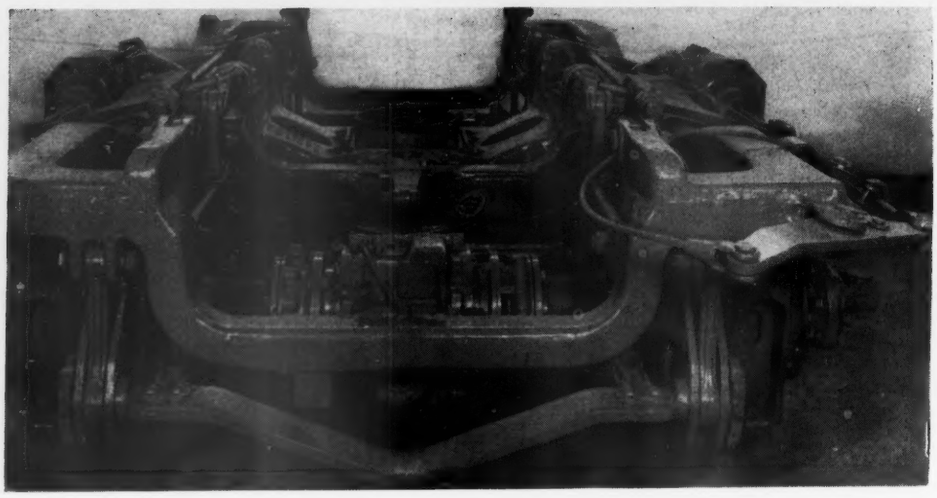
The cars are equipped with the Frigidaire electromechanical air conditioning system of eight tons capacity, with the evaporator split one-third, two-thirds. The draw-through type blowers and motor assembly are mounted on the A. C. F. hinged access door device, readily raised and lowered by a hand-operated gear case for easy access and servicing from car floors. This arrangement greatly facilitates the cleaning of evaporator coils as well as ducts. Condensers are of the full-flooded type.

Air outlets in the roomettes and bedrooms are Multi-Vent Room-Master hinged panels. Anemostats are employed in the passageways. Metal air filters are placed behind the intake grills. The recirculated air passes

*See Railway Age of October 1, 1949, page 30.



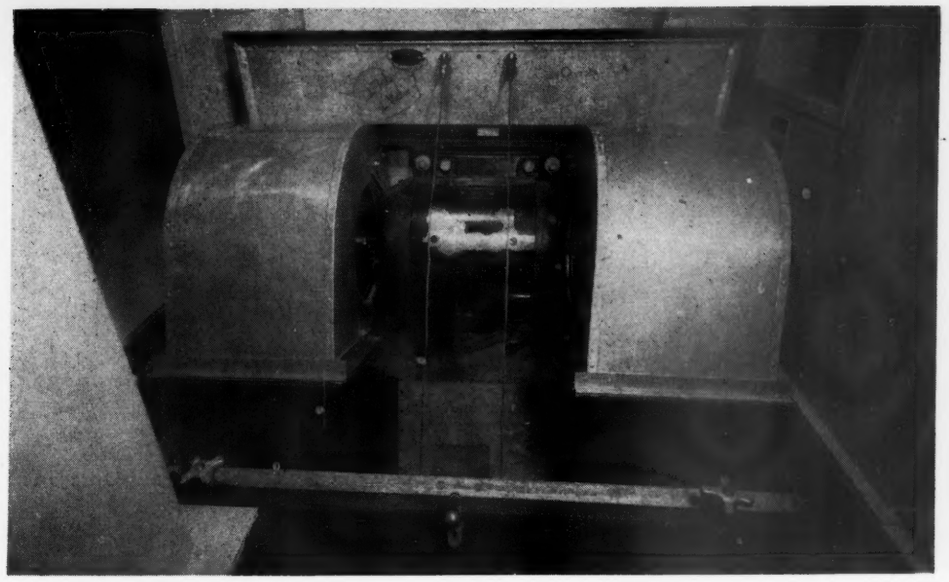
One of the four-wheel trucks



The inside end of a truck showing the Spicer gear case in place on the axle

Partial List of Materials and Equipment on the Four-Bedroom 12-Roomette Sleeping Cars

Aluminum sheets, shapes, extrusions	Aluminum Co. of America, Pittsburgh, Pa.
Truck frames and bolsters; platform center sill	General Steel Castings Corp., Granite City, Ill.
Truck springs	American Locomotive Co., Railway Steel Spring Div., New York
Wheels	Bethlehem Steel Co., Bethlehem, Pa.
Axles	Standard Forgings Corp., Chicago
Shock absorbers	(U. P., Wabash) Houdaille-Hershey Corp., Houde Engineering Div., Buffalo, N. Y.
Journal boxes and bearings	(5 U. P.; 2 C. & N. W.) Hyatt Bearings Div., General Motors Corp., Harrison, N. J. (6 U. P.; 10 Wabash) Timken Roller Bearing Co., Canton, Ohio
Spline bushings	Hyatt Bearings Div., General Motors Corp., Harrison, N. J.
Sound deadening pads	Fabreeka Products Co., Boston, Mass.
Brake lever and hanger bushings	(11 U. P.; 10 Wabash) Ex-Cell-O Corp., Detroit, Mich. (2 C. & N. W. "Railite") Chrysler Corp., Amplex Div., Detroit, Mich.
Locking center pins	W. H. Miner, Inc., Chicago
Air brakes; wheel slide control	Westinghouse Air Brake Co., Wilmerding, Pa.
Clasp brakes	American Steel Foundries, Chicago
Hand brakes	(11 U. P.; 2 C. & N. W.) National Brake Co., New York (10 Wabash) W. H. Miner, Inc., Chicago
Brake shoes	American Brake Shoe Co., New York
Side bearings, Drews Everite	American Steel Foundries, Chicago
Couplers and yokes	National Malleable & Steel Castings Co., Cleveland, Ohio
Equalizers	Camden Forge Co., Camden, N. J.
Draft gears	Waugh Equipment Co., New York
Upper buffer mechanism	Standard Railway Equipment Manufacturing Co., Hammond, Ind.
Copper sheets	Revere Copper & Brass, Inc., New York
Miscellaneous springs	America Spring & Wire Specialty Co., Chicago Duer Spring & Manufacturing Co., McKees Rocks, Pa. Eureka Spring Co., New York Union Spring & Manufacturing Co., New Kensington, Pa.
Diaphragms; window and vestibule curtains	Adams & Westlake Co., Elkhart, Ind.
Vestibule weather seal	Morton Manufacturing Co., Chicago
Sound deadening material	Dednox, Inc., Chicago
Slide fasteners	Talon, Inc., Meadville, Pa.
Weatherstrip	Durkee-Atwood Co., Minneapolis, Minn.; Harnley Weatherstrip Co., Chicago Inland Manufacturing Div., General Motors Corp., Dayton, Ohio National Lock Washer Co., Newark, N. J. United States Rubber Co., New York
Insulation:	
Body	(11 U. P.; 2 C. & N. W.; 7 Wabash) Gustin-Bacon Manufacturing Co., Kansas City, Mo. (3 Wabash) Johns-Manville, New York
Sides, ends, roof, floor	(11 U. P.; 2 C. & N. W.; 7 Wabash) Gustin-Bacon Manufacturing Co., Kansas City, Mo. (3 Wabash) Johns-Manville, New York
Air duct and evaporator compartments	(11 U. P.; 2 C. & N. W.; 7 Wabash) Gustin-Bacon Manufacturing Co., Kansas City, Mo. (3 Wabash) Johns-Manville, New York
Alumalun thresholds; step treads	American Abrasive Metals Co., Irvington, N. J.
Trap doors	O. M. Edwards Co., Syracuse, N. Y.
Sash	Adams & Westlake Co., Elkhart, Ind.
Glass	Hadley Dean Glass Co., St. Louis, Mo. Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Window capping	J. Zicherman & Son, New York
Plymetl	Haskelite Manufacturing Corp., Grand Rapids, Mich.
Presdwood	Masonite Corp., Chicago
Door closers	Russell & Erwin Div., American Hardware Corp., New Britain, Conn. Yale & Towne Manufacturing Co., Stamford, Conn.
Locks	Adams & Westlake Co., Elkhart, Ind. Dayton Manufacturing Co., Dayton, Ohio J. L. Howard & Co., Hartford, Conn. Loeffelholz Co., Milwaukee, Wis
Pivot hinges	Loeffelholz Co., Milwaukee, Wis
Hinges	Homer D. Bronson Co., Beacon Falls, Conn. Moynahan Bronze Co., Detroit, Mich.
Enamalite; Permagum	Presstite Engineering Co., St. Louis, Mo.
Cement	Armstrong Cork Co., Lancaster, Pa. Philip Carey Manufacturing Co., Cincinnati, Ohio B. F. Goodrich Co., Akron, Ohio Minnesota Mining & Manufacturing Co., St. Paul, Minn.
Cork	Armstrong Cork Co., Lancaster, Pa.
Rubber floor covering	Beck & Blatchford Co., Chicago
Molded rubber	Atlanta India Rubber Works, Chicago B. F. Goodrich Co., Akron, Ohio



The air-conditioning fan unit is mounted on hinged access door which can be raised and lowered by means of the crank

through a grill in the ceiling of the passageway near the vestibule end of the car and then through an Electro-Air-Mat filter and Dorex purifier.

Heating is by the Vapor zone system with copper-fin radiation along the sides at the floor and overhead heat from the coils in the air-conditioning evaporator unit.

Electric power for the Union Pacific cars is developed by General Electric 20-25-kw., 35.5-volt, d.c. generators, body mounted, with Spicer automatic clutch drive. On the same shaft with the generator is a 25-hp., 220-volt, three-phase, 60-cycle induction motor operating at 1,750 r.p.m. The C. & N. W. and Wabash cars have Safety 25-kw. genemotors, with 40-d.c. generators and 32-hp.,

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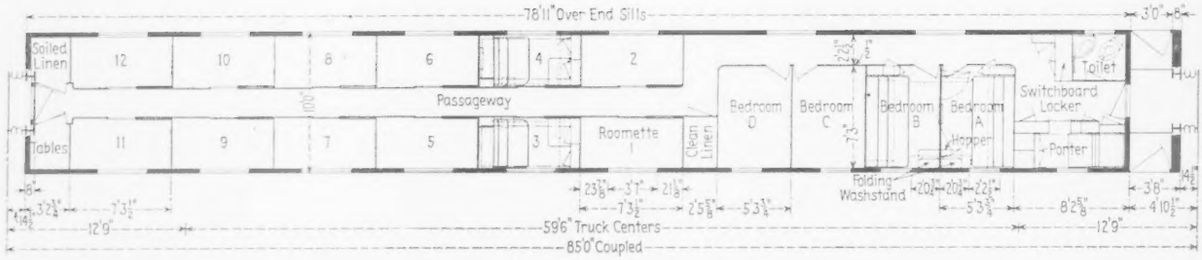
Molded rubber (cont.)	Johnson Rubber Co., Middlefield, Ohio Mechanical Rubber Products Co., New York Quaker Rubber Corp., Philadelphia, Pa.
Moldings	Brasco Manufacturing Co., Harvey, Ill.
Wire netting	Ludlow Saylor Wire Co., St. Louis, Mo.
Car numbering device	Hunter Illuminated Car Sign Co., Flushing, N. Y.
Batteries	Electric Storage Battery Co., Philadelphia, Pa.
Wire terminals	Aircraft-Marine Products, Inc., Harrisburg, Pa. L. B. Allen Co., Chicago
Solder	American Smelting & Refining Co., New York
Telephone system	Automatic Electric Co., Chicago
Annunciator	Crannell, Nugent & Kranzer, Inc., New York
Steel cable	Broderick & Bascom Rope Co., St. Louis, Mo.
Generators	(10 Wabash; 2 C. & N. W.) Safety Car Heating & Lighting Co., New York (11 U. P.) General Electric Co., Schenectady, N. Y.
Generator drive	(11 U. P.; 2 C. & N. W.) Dana Corp., Toledo, Ohio (10 Wabash) Safety Car Heating & Lighting Co., New York
Light fixtures	Luminator, Inc., Chicago
Wire and cable	Okonite Co., Passaic, N. J.
Conduit and fittings	Brown Supply Co., St. Louis, Mo. Crannell, Nugent & Kranzer, Inc., New York Pyle-National Co., Chicago Usona Manufacturing Co., St. Louis, Mo.
Battery-charging, train-line, brake train-line, communication, and a.c. standby receptacles	Pyle-National Co., Chicago
Shielded cable	American Phenolic Corp., Chicago
Motor alternator	Safety Car Heating & Lighting Co., New York
Exhaust blowers	Westinghouse Electric Corp., Pittsburgh, Pa.
Exhaust fans	Diehl Manufacturing Co., Electric Div., Singer Manufacturing Co., Somerville, N. J.
Electronic air filters	American Air Filter Co., Louisville, Ky.
Air filters	Farr Co., Los Angeles, Cal.
Air conditioning	Frigidaire Div., General Motors Corp., Dayton, Ohio
Exhaust ventilators	American Car & Foundry Co., New York
Air distribution panels	Pyle-National Co., Chicago
Air recovering units	Tuco Products Corp., New York
Steam heat	Vapor Heating Corp., Chicago
Water raising specialties	Westinghouse Air Brake Co., Wilmerding, Pa.
Circulating fans	Westinghouse Electric Corp., Pittsburgh, Pa.
Grills	Barber-Colman Co., Chicago Harrington & King Perforating Co., New York
Upholstery material	Collins & Aikman Corp., New York Goodall Fabrics, Inc., New York
Carpet	Beck & Blatchford, Chicago
Mirrors	Waterhouse & Co., Webster, Mass.
Berth springs	No-Sag Spring Co., Detroit, Mich.
Carpet pad	United States Rubber Co., New York
Leather	Cleveland Tanning Co., Cleveland, O.
Luggage rack	Dayton Mfg. Co., Dayton, O.
Blankets	North Star Woolen Mill Co., Minneapolis, Minn.
Rubber mattresses	Hewitt Rubber Div., Hewitt Robbins, Inc., Buffalo, N. Y. Goodyear Airfoam Products, Akron, Ohio United States Rubber Co., New York
Folding card tables	Constant Hopkins Co., Chicago
Folding chairs	Clarin Mfg. Co., Chicago
Coat hangers	South Montrose Mfg. Co., South Montrose, Pa.
Door hangers and tracks	National Pneumatic Co., Rahway, N. J.
Case for valuables	Waterhouse & Co., Webster, Mass.
Seat assemblies, beds, etc.	Moynahan Bronze Co., Detroit, Mich.
Fittings for folding wash basin	Crane Co., Chicago
Folding lavoratories	Owen Webber, Inc., Kearney, N. J.
Vending machine	Advance Machine Co., Chicago
Water tank	American Car & Foundry Co., New York
Pipe covering	Johns-Manville, New York Union Asbestos & Rubber Co., Cicero, Ill.
Steel pipe and fittings	National Tube Co., Pittsburgh, Pa. Crane Co., Chicago Walworth Co., New York Laclede Steel Co., St. Louis, Mo.
Copper pipe and fittings	Brass & Copper Sales Co., St. Louis, Mo. Chase Brass & Copper Co., Waterbury, Conn. Mueller Brass Co., Port Huron, Mich.
Lavatories	Crane Co., Chicago
Hoppers	Duner Co., Chicago
Faucets	Chicago Faucet Co., Chicago
Water cooler	E. A. Lundy Co., New York
Drinking-cup dispensers	Dixie Cup Co., Easton, Pa.
Paper towel cabinets and holders	Scott Paper Co., Chester, Pa.
Medicine cabinet doors	Luminator, Inc., Chicago
First aid kits	Bauer & Black Div., Kendall Co., Chicago
Fire extinguishers	Pyrene Manufacturing Co., Newark, N. J.
Paint	Cook Paint & Varnish Co., North Kansas City, Mo. E. I. du Pont de Nemours & Co., Wilmington, Del. Robert M. Lucas Co., Chicago Minnesota Mining & Manufacturing Co., St. Paul, Minn. Parr Paint & Color Co., Cleveland, Ohio Pittsburgh Plate Glass Co., Paint Div., Pittsburgh, Pa.



Floor plan of 4-bedroom, 12-roomette sleeping cars built for the Union Pacific, Wabash and Chicago & North Western

three-phase, 60-cycle, 220-volt motors. The generators on the C. & N. W. cars have Spicer drives with automatic clutch. Those on the Wabash have Safety V-belt and gear-case drive. Power for the fluorescent lighting circuit is developed at 115 volts a.c., by two Safety 2,000-watt motor alternators.

Exide batteries are installed on all of the cars. The capacity is 1,000 amp. hrs. on the C. & N. W. cars, 1,076 amp. hrs. on the U. P. cars, and 1,294 amp. hrs. on the Wabash cars.

The train lines and wiring on these cars are essentially the same as those on the club and cafe-lounge cars delivered early in 1949, to which reference has already been made. Separate conduit has been installed with necessary junction boxes for possible future application of wire-recording distribution equipment. There is no wiring in the conduit at the present time.

Lighting in the bedrooms, roomettes and corridors is by fluorescent fixtures. Incandescent lights are employed in the vestibule, on the stub end of the car and in the lockers. In each bedroom and roomette and in the general toilet are 110-volt a.c. receptacles for electric shavers.

All of the Union Pacific and Chicago & North Western cars and four of the Wabash cars are equipped with intratrain telephones. One Automatic Electric Company's car set operating on direct current is placed in a recess in the alternating current locker. Jacks are applied in each bedroom and roomette, and there is one portable telephone in each car which can be plugged in.

Mechanical Equipment

The water system includes two stainless-steel storage tanks having 300-gal. total capacity, with Westinghouse water raising system and Vapor hot-water heater. Drinking water is centrally cooled and distributed to the bedrooms and roomettes by the Lundy recirculating system.

The trucks for all of the cars are four-wheel type with 6-in. by 11-in. axles and 36½-in. multiple-wear rolled-steel wheels. The Union Pacific and Wabash trucks have 9 ft. wheel base; the Chicago & North Western, 8 ft. 6 in. The Union Pacific and Wabash trucks include bolster roll stabilizers and Houde vertical shock absorbers. All of the cars have Drews Evertight shock-absorbing side bearings and are extensively sound insulated with Fabreeka and rubber pads.

The air brakes are Westinghouse HSC type with D-22-BR control valve. Generator type speed governors and AP decelostats are mounted on the trucks. The foundation brakes are unit-cylinder type with four 9-in. brake shoes on each wheel.

Exposed steam-heat and air-brake pipes underneath the car are seamless steel, the steam-heat trainline being welded, with steel and copper pipe connections from the steam-heat trainline, including brass pipe through the floor to the Vapor heat valves. The steam-heat pipe insulation is 1-in. Wovenstone protected from abrasion under the car by Royalite abrasion-resistant rubber jackets. Inside the car the piping is copper with sweated fittings.

Complete dust protection is provided at the diaphragm face plates by an inner zipper-closed weather-seal diaphragm, and bottom dust seal. Diaphragm face plates are carpet covered. All cars are fitted with National Malleable Type H tight-lock couplers and Waughmat twin-cushion draft gears. Average running weight per car is 160,400 lb.

Communication . . .

Providing the Press With Information on Accidents

KILKENNY, MINN.

TO THE EDITOR:

Apropos of the lead editorial in your March 4 issue on the handling by the newspapers of the wreck on the Long Island Railroad:

Perhaps some of the newspaper accounts of train accidents that are not factual or are so written as to be distasteful to railroad men may be traced to "man failure" on the part of a station agent, train dispatcher, trainmaster, superintendent or an employee, or officer in the road's general offices including those in charge of press relations. . . .

It would seem that you would do a good service to the industry were you to fix up a follow-up editorial pointing out that the division or general officer of a railroad who willfully or by subterfuge refuses to answer inquiries of a newspaper writer following a train accident does the railroad industry and his company a grave injustice.

You would do well, it seems to me, to point out that operating department heads should immediately pass along word to all employees that they are to make available what they know to be facts in response to inquiries from the press and radio, and if they do not have facts, the inquirer should be referred to the representative of the railroad believed to be best informed in the matter.

After circulation of such information a representative who withholds cooperation from the press or radio should be reprimanded.

THAN MCCOOL

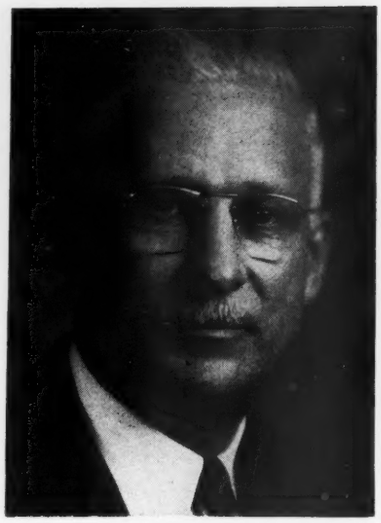
Fred S. Schwinn
President, A.R.E.A.

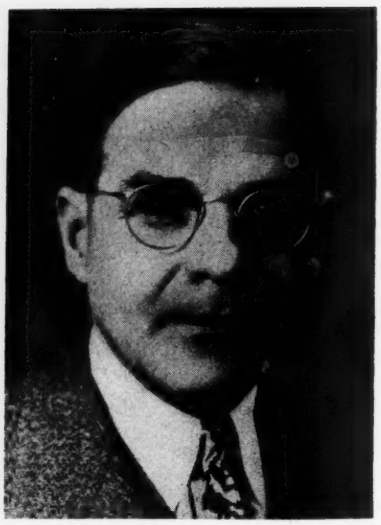
A. R. E. A.
Convention Section

contents

Condensed for rapid reading, an account of the forty-ninth annual meeting of the American Railway Engineering Association, held at the Palmer House, Chicago, March 14-16, appears on the following pages. Included are a highlight story describing the principal events of the meeting, brief abstracts of all the technical committee reports, indicating the action taken on the recommendations contained in them, and condensed abstracts of all the addresses, including those presented in connection with the various committee reports. In addition there are biographical sketches of Walter S. Lacher and Neal D. Howard, the retiring and newly appointed secretaries, respectively, of the association.

A.R.E.A. GETS OFF TO ST





Above—G. L. Sitton, president-elect. Center — H. S. Loeffler, vice-president. Right —T. A. Blair, vice-president-elect

The technical problems of the engineering and maintenance forces of the railways occupied the center of the stage during the proceedings of the forty-ninth annual convention of the American Railway Engineering Association, held at the Palmer House, Chicago, March 14-16. The meeting, which signaled the beginning of the association's second half-century of service to the railroads, was enlivened, however, by a number of special activities and events, including an inspection trip to the new central research laboratory of the Association of American Railroads at Chicago. Despite concentration on the technical phases of the meeting, the underlying theme brought out in several of the principal addresses was that the dangers of state socialism, with its threat to free enterprise and individual liberty, are mounting day by day, and that, if these dangers are to be overcome, individual railroaders, in their daily contacts with other people, must become crusaders for the American way of life.

Many Technical Addresses

The major business of the meeting was the presentation of the reports of the association's 21 standing committees, which involved a total of about 110 reports on individual subjects, many including recommendations calling for changes in, additions to, or deletions from the association's Manual of recommended practice. Aside from the reports made on regular committee assignments, the majority of the presentations by committees included one or more relatively brief addresses or papers on timely related subjects.

The opening session on Tuesday morning, March 14, was the occasion for two major addresses, one by Fred S. Schwinn, president of the A. R. E. A. and assistant chief engineer of the Missouri Pacific, and the other by J. H. Aydelott, vice-president, Operations and Maintenance Department, A. A. R. Another feature of this session was the annual report of Secretary Walter S. Lacher. Noting that the comparison of one association year with another "is normally of small concern," Secretary Lacher said that "it is now of real interest because of curiosity on the part of not a few members as to the possibility of a recession during the year immediately following such activity as occurred during the association's semi-centennial celebration which ended on March 17, 1949." No such recession occurred, said Mr. Lacher, pointing out that there was an excess of receipts over disbursements which exceeded $5,000; an increase in membership; an increase in the personnel of committees; an appreciable increase is the printed pages of committee reports; a moderate increase in the number of pages of material offered for adoption and publication in the Manual; and an increase in the revenues from the sale of the association's publications.

A special event during the opening session was the presentation of an honorary membership in the association to E. M. Hastings, chief engineer of the Richmond, Fredericksburg & Potomac, and a past president of the association. The presentation was made by H. R. Clarke, chief engineer of the Chicago, Burlington & Quincy, and a past president of the association. Since Mr. Hastings was prevented by illness from being present, the award was accepted in his behalf by two sons, both members of the A. R. E. A.—D. C. Hastings, supervisor of track, R. F. & P., and E. M. Hastings, Jr., wire crossing engineer, Chesapeake & Ohio.

The inspection of the A. A. R. research laboratory

STRONG START ON ITS SECOND FIFTY YEARS

Forty-ninth annual convention at Chicago characterized by well-rounded program of addresses, committee reports and special events

took place on Tuesday afternoon, when the session was adjourned somewhat earlier than usual to allow time for the trip. About 350 members and guests of the association boarded a special train of the New York Central, which took them to the site of the new laboratory on the campus of the Illinois Institute of Technology. There the group was conducted through the new $600,000 facility by G. M. Magee, research engineer, Engineering Division, and members of his staff.

Another highlight of the meeting was the annual luncheon, held Wednesday noon, at which the principal speaker was W. G. Vollmer, president of the Texas & Pacific.

Officers in Radio Broadcast

On Tuesday President Schwinn and other officers of the association participated in a radio broadcast over station WLS in Chicago from 12:00 to 12:30 p.m. This program consisted of a panel discussion of railroad progress and what it means to the nation. Those heard on the program, in addition to President Schwinn, included H. S. Loeffler, vice-president of the A. R. E. A. and assistant chief engineer, Great Northern; G. M. Magee, research engineer of the A. A. R.; and Albert R. Beatty, assistant vice-president of the A. A. R.

All sessions of the convention were presided over by President Schwinn, assisted by Secretary Lacher, Vice-President H. S. Loeffler, and several past presidents, acting in the absence of Senior Vice-President G. L. Sitton, assistant chief engineer of the Southern, who was unable to attend the meeting because of illness. The attendance at the convention included 1,025 members and 672 guests, a total of 1,697. While the total figure was somewhat below that for the previous year, which was favorably affected by the semi-centennial celebration, it was considered highly satisfactory, especially in view of the absence of a manufacturers' exhibit at this year's meeting.

The following officers were elected to direct the affairs of the association during the ensuing year: President,

The Board of Direction of the American Railway Engineering Association in session March 13. Left to right around the table are: C. H. Mottier, vice-president and chief engineer, Illinois Central; A. B. Chapman, assistant chief engineer, Chicago, Milwaukee, St. Paul & Pacific; N. D. Howard, western editor, Railway Age; I. H. Schram, chief engineer, Erie; A. A. Miller, chief engineer maintenance of way (retired), Missouri Pacific; J. B. Akers, chief engineer, Southern; H. S. Loeffler, assistant chief engineer, Great Northern (vice-president); F. S. Schwinn, assistant chief engineer, M. P. (president); W. S. Lacher, secretary; Nancy Campbell, stenographer; E. G. Gehrke, assistant to secretary; G. W. Miller, assistant engineer maintenance of way, Canadian Pacific; T. A. Blair, chief engineer, Atchison, Topeka & Santa Fe; C. G. Grove, chief engineer maintenance of way, Western region, Pennsylvania; E. C. Vandenburgh, chief engineer, Chicago & North Western; and F. McNellis, assistant secretary. Other members of the board not shown include G. L. Sitton, assistant chief engineer, Southern (senior vice-president); Armstrong Chinn, president, Terminal Railroad Association of St. Louis; R. L. Groover, chief engineer, Atlantic Coast Line; J. D. Moffat, chief engineer, Western region, P.R.R.; W. D. Simpson, chief engineer, Seaboard Air Line; and C. B. Bronson, maintenance of way, assistant to vice-president, New York Central.

Careers of Secretaries

Neal D. Howard

Walter S. Lacher

Walter S. Lacher, who retires on April 1 as secretary of the American Railway Engineering Association, and Neal D. Howard, his successor, have followed careers that in a number of important respects have been closely similar. Both are university graduates with degrees in civil engineering, both supplemented their college training with a period of practical experience in railway engineering positions, both were for many years secretary of the Maintenance of Way Club of Chicago, and both served for a long period as engineering editors on the staff of *Railway Age* and its associated publication, *Railway Engineering and Maintenance*. In this editorial work Mr. Lacher had 23 years of service and Mr. Howard 26 years. Mr. Lacher assumed the duties of secretary of the A. R. E. A. when he was 54; Mr. Howard is 51.

Walter Lacher was born April 7, 1884, at Winona, Minn., and holds a bachelor of science degree in civil engineering from the University of Wisconsin, where his scholastic attainments were such that he was elected a member of Tau Beta Pi, honorary engineering fraternity. Early in Mr. Lacher's career a preference for structural engineering came into evidence. After a short period of service with a steel-fabricating company he spent three years with the old Chicago & Alton (now part of the Gulf, Mobile & Ohio), where he rose to the position of assistant engineer. He then went with the Illinois Highway Commission as a structural draftsman, but shortly returned to railway service with the Chicago, Milwaukee & St. Paul (now the Chicago, Milwaukee, St. Paul & Pacific), where he advanced through various positions to that of office engineer in bridge design.

Mr. Lacher entered upon the editorial phase of his

Mr. Sitton; vice-president to serve for two years, T. A. Blair, chief engineer of the Atchison, Topeka & Santa Fe, Chicago.

New Directors

The directors named were R. P. Hart, chief engineer, Missouri Pacific, St. Louis, Missouri; Clark Hungerford, president, St. Louis-San Francisco, St. Louis; W. J. Hedley, assistant chief engineer, Wabash, St. Louis; and G. M. O'Rourke, assistant engineer maintenance of way, Illinois Central, Chicago.

Members of the nominating committee are: L. L. Adams, assistant chief engineer, Louisville & Nashville, Louisville, Kentucky; Barton Wheelwright, chief engineer, operating, Canadian National, Montreal, Quebec; E. E. Oviatt, chief engineer, New York, New Haven & Hartford, New Haven, Connecticut; M. H. Dick, engineering editor, *Railway Age*, Chicago; and J. E. Fanning, assistant to chief engineer, Illinois Central, Chicago.

In addition, H. S. Loeffler, assistant chief engineer of the Great Northern, St. Paul, Minn., vice-president of the association, was automatically advanced to senior vice-president, succeeding Mr. Sitton.

On the closing day of the convention, in connection with the installation of the new officers, a plaque was presented to Mr. Lacher on the occasion of his retirement, effective April 1, as secretary of the association. Neal D. Howard was then introduced as his successor. Mr. Howard is now western editor of *Railway Age* and editor of *Railway Engineering and Maintenance*. At a meeting of the board of direction, held immediately prior to the convention, G. W. Miller, assistant engineer maintenance of way of the Canadian Pacific, Eastern region, Toronto, Ont., was re-elected a member of the board to fill out the term of Mr. Howard.

Abstracts of the addresses by President Schwinn, and by Messrs. Aydelott and Vollmer appear below. Also included on following pages are abstracts of all the committee reports, indicating the action taken on recommendations regarding Manual material, and at least brief reference to all of the addresses presented in connection with the reports.

the New and Retiring of the A.R.E.A.

career in 1915 when he was employed by the late Elmer T. Howson as assistant engineering editor of the Railway Age Gazette (now *Railway Age.*) In the following year when the Railway Maintenance Engineer (now *Railway Engineering and Maintenance*) was established, Mr. Lacher also became associate editor of that publication. In 1920 he became western engineering editor of *Railway Age* and managing editor of *Railway Engineering and Maintenance*, in which capacities he served until 1938, when he was appointed secretary of the A. R. E. A. to succeed the late E. H. Fritch.

Those with whom Mr. Lacher has been closely associated as secretary testify to the high degree of competence with which he has discharged the exacting duties of this position. Among other accomplishments he was instrumental in modernizing the editorial and typographical standards of the association's publications, in greatly improving the appearance of the drawings reproduced in them, and in establishing the secretary's office as, in effect, a bureau of information on all matters relating to railway engineering and maintenance.

Neal Howard was born at Rochester, N. Y., December 23, 1898, and earned his degree in civil engineering at Rensselaer Polytechnic Institute. Subsequently he became a licensed professional engineer in both New York and Illinois. His practical railroad experience was obtained with the Illinois Central, with which road he served on construction and maintenance work from 1922 to 1924. His duties as a rodman on this road included making performance studies of gang organizations and of various units of work equipment. As a result Mr. Howard developed a deep interest in the use of machines for maintenance-of-way work, which was later reflected in his many articles on this subject. In 1924 he left the Illinois Central to become associate editor on the staff of the *Railway Engineering and Maintenance Cyclopedia*, a Simmons-Boardman publication with headquarters at Chicago. Two years later he was sent to New York as eastern engineering editor of *Railway Age* and eastern editor of *Railway Engineering and Maintenance.*

In 1938, when Mr. Lacher resigned to become secretary of the A. R. E. A., Mr. Howard returned to Chicago to succeed him as engineering editor of *Railway Age* and managing editor of *Railway Engineering and Maintenance.* In 1944, following the death of Elmer T. Howson, Mr. Howard was made editor of the latter publication; in 1946 he became also western editor of *Railway Age;* and in 1948 he became, in addition, editor of the *Railway Engineering and Maintenance Cyclopedia.* These positions he will relinquish to become secretary of the A. R. E. A. Association work will not be new to Mr. Howard, as he was formerly secretary and is now executive secretary of the Maintenance of Way Club of Chicago, is a past president of the American Railway Bridge and Building Association, had risen to first vice-president of the Roadmasters' Association when his impending connection with the A. R. E. A. impelled him to decline further advancement in that association, and was a member of the board of direction of the A. R. E. A. at the time of his appointment as secretary of that association.

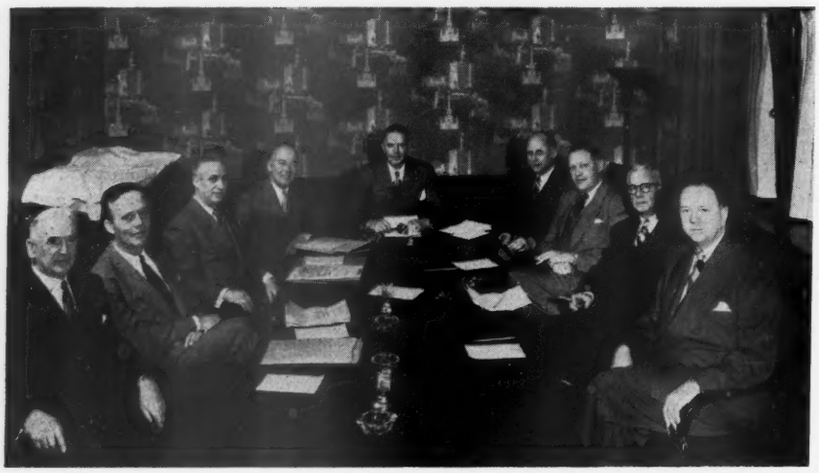
THE PRESIDENT LOOKS AHEAD

In commencing his remarks at the opening session President Schwinn said that he would "attempt a very restricted sight into our immediate future as I do not dare look further." Members of the association must expect to encounter a rapidly changing vista in the future, he said, but, in addition to recognizing these changes and the new problems they will bring, he cautioned the members that "we must be alert to every need for modification or revisions of our practices and to these newly discovered developments affecting conceptions which we may have considered as final, as finished products laid away in the deep freeze."

Mr. Schwinn expressed the opinion that research would play an increasingly large part in molding the association's future recommendations. He expects this development to have an important influence on the responsibilities and activities of the standing committees. These committees, he said, will have the obligation of inaugurating the required research, of foreseeing the need for research and of evaluating the results, of condensing research reports and of interpreting the results in such a manner that the benefits may be made readily applicable to the railroads. At the same time, he said, "they will want to assure themselves that the finally developed recommendations are based upon investigations conducted under conditions truly representative of those found in actual service and that they are not designed to support some earlier established practices nor to confirm any preconceived ideas."

Not wishing to leave the members with the "erroneous impression that all committee work will be of a nature requiring scientific research," President Schwinn said that "we will always have with us the less scientific but equally important economic problems for our analysis, clarification and solution." Each committee, he continued, should give serious heed to competitive transportation activities with the objective of presenting a helpful answer, either independently or in cooperation with another group, to some phase of that competition.

Discussing the problems of the association itself, its president, noting how the activities of the association



The Board of Direction of the National Railway Appliances Association in a pre-convention session at Chicago. From left to right are: Lewis Thomas (Q&C Co.), asst. secretary and director of exhibits; John B. Templeton (Templeton, Kenly & Co.); Philip A. Winston, attorney, N.R.A.A.; Max K. Ruppert (P.&M. Co.); H. M. McFarlane (O. F. Jordan Company), president, N.R.A.A.; Walter H. Tudor (International Harvester Company), treasurer, N.R.A.A.; W. B. Blix (Nordberg Manufacturing Company); C. L. Mellor (Barco Manufacturing Company); and J. P. Kleinkort (Ramapo Ajax Division, American Brake Shoe Company). Other officers and directors of the association not included in the photograph are Jess Mossgrove (Austin-Western Company), vice-president; R. B. Fisher (Buda Company, retired), secretary; R. A. Carr (Dearborn Chemical Company); Kenneth Cavins (Fairmont Railway Motors, Inc.); and Eugene Harbeck (National Lock Washer Company)

are largely concentrated in the East, said that the board of directors has not been unmindful of the interests of the members in the West and that a special committee of the board is endeavoring to develop means whereby the association can be of greater value to all members, and particularly to those situated in the more distant parts of the United States and Canada. Addressing himself to the junior members of the association, and basing his remarks on his own experience, Mr. Schwinn said that "for all you give this association of your time, efforts and ability, you will be richly rewarded. You will receive many times more than you possibly can give, no matter how much that may be."

He expressed elation over the fact that, following the sharp increase in membership that occurred during the Fiftieth Anniversary year, the association has more than held this newly acquired membership. In fact, he said, there was a net gain of 45 in the number of members during the past year, bringing the total to 3,053 members of all classes. And this, he pointed out, does not include 31 applications received prior to February 1 and in process of investigation or approval at that time.

In his closing remarks President Schwinn drew an analogy between the achievements of the engineering profession in overcoming such problems as are presented by the destruction of wood by termites and the damage of metal by corrosion, and in dealing with the dangers threatening the country's economic system. "The finest example of a structural foundation to be found on this globe," he said, "is the American way of life," and on that "wonderful foundation stands the American railroad structure." "But the termites of centralized power and socialism," he continued, "are eating at that foundation and gradually weakening it," while the corrosive effects of excessive taxation, obsolete and unnecessarily restrictive regulation, and subsidized and uncontrolled competition are making their disastrous inroads on the cross section of that structure." He concluded that the "unfolding vista of our second half century will not make a pretty picture unless we assert our right as individuals and actively take a part in the protection of our structures."

THE PUBLIC MUST BE INFORMED

The present status of the railroad industry in the transportation field is such that, unless there is constructive thinking toward the development of a national transportation policy fair to all agencies, there is a "great probability" that opportunities for further achievements of the A. R. E. A. will be considerably lessened, said Mr. Aydelott in his address at the opening session. To secure from legislative bodies "what is properly due our industry on its past record of support to the economy and to the security of our nation," he declared, "will require a concerted effort not only by those who work for or look to the industry for support, but also of a large segment of the public in general which, more than it realizes, is vitally interested in the outcome of this effort."

The apathetic attitude of the public in general towards the problems of the railroads and the opposition of proponents of other forms of transportation to any reduction in the subsidies now being received by them were mentioned by Mr. Aydelott as obstacles to be overcome if the railroads are to obtain fair treatment. To illustrate the contrasting attitudes of public authorities toward the railroads and other forms of transportation, Mr. Aydelott said that, when a serious train accident occurs, "ambitious public authorities will likely prescribe further costly installations to be financed by the railroads." On the other hand, he said, a collision of airliners approaching a congested airport is likely to result in the provision of an additional airport at the taxpayers' expense. In Mr. Aydelott's opinion, these

attitudes in dealing with transportation matters will not change unless there is an aroused public opinion.

He then referred to various proposals that the railroads are making in an effort to obtain more equitable treatment. These proposals include one that would result in a closer examination of proposed expenditures of government funds in behalf of other forms of transportation, to determine if such expenditures are justified in the public interest. The removal of wartime taxes on transportation, increased remuneration from the handling of U. S. mail, and the defeat of proposed legislation that would burden the railroads with additional regulations, were other objectives mentioned by Mr. Aydelott.

After noting that a movement is underway in Congress to determine if the regulation of various transportation agencies is on a fair and impartial basis, as prescribed in the Interstate Commerce Act, Mr. Aydelott emphasized the importance of local contacts by railroad officers, particularly those who spend a large part of their time in the field. "It should be our purpose," he said, "to enlist the support of influential citizens so that their voices may be added to ours in seeking to obtain fair treatment for the railroads. The survival of our railroads as privately owned and operated properties may well depend on how well we are able to state our case to the people."

VOLLMER URGES A CRUSADE

The address by Mr. Vollmer at the annual luncheon on Wednesday was a ringing appeal for action in stemming the tide of state socialism. False reasoning, he said, is painting a "rosy road to socialism" which is "paved with wrong assumptions and tempting promises." However, he continued, "if we are willing to look the facts of life squarely and honestly in the face, the mathematics of common sense will prove that the federal government cannot fulfill its generous promises with safety to our economy."

Mr. Vollmer declared that "we must place our faith and our hope in the great principle that our Creator endowed all mankind with the rights of freedom as children of God, with a free will. We must live and work by that principle if we are to remain a free people."

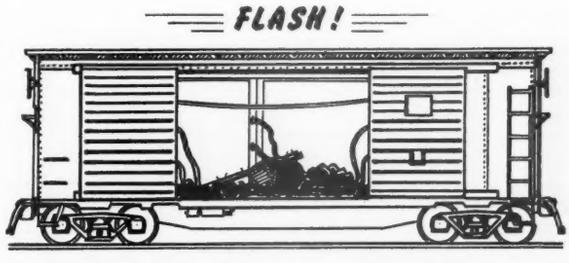
If, in our quest for a richer and fuller life, we should turn away from this concept of freedom and human dignity we shall find ourselves embracing the evil philosophy that the rights of man come from the state, he said. Before traveling "too far down the socialistic road to ruin" we should take time to evaluate the "benevolent" promises of government that it "can be everything to everybody without cost to anybody," that it can "relieve us of the economic responsibilities of making our own living," and that "we can accept federal aid, service and assistance, and at the same time retain our individual freedom."

Pointing to the growing tendency of the federal government to subsidize benefits for particular groups, Mr. Vollmer wondered "who is going to pay for everybody's subsidies" when "everybody is subsidizing everybody else." "It is obvious," he continued, "that whatever the government gives to the people it must first take from them, or else place a mortgage upon their future earnings."

Listing some of the ways in which the government is spending and is planning to spend the taxpayer's money, Mr. Vollmer said that, while these things may be laudable, the federal government cannot provide them without consuming more and more of the people's income. "And the more it consumes," he said, "the less able are we to provide these things for ourselves and, thus, the more dependent we become upon the government for assistance."

Addressing his audience directly, Mr. Vollmer said that it is "important that you speak up, whenever and wherever you have an opportunity, in behalf of a national economy based upon such sound rules of reckoning as the laws of mathematics, of supply and demand, and of cause and effect." Outlining a number of arguments for such occasions, he said it can be pointed out that, "unless individuals and industries of the nation are permitted to keep a fair and reasonable proportion of the fruits of their labors, the money essential to the tools of industry will dry up eventually"; that "today's savings and investments are the germs of tomorrow's productivity"; that the "tools of production represent about 90 per cent of our productive energy"; that a "decrease today in the supply of energy-producing tools means a corresponding decrease tomorrow in the supply of goods and services"; that the "productive capacity of our competitive enterprise system, based upon individual freedom and human rights, has never been remotely approached anywhere else"; and that "any form of government which undertakes to do for its people those things which they can and should do for themselves will end up in disaster."

In closing, Mr. Vollmer listed 10 suggestions for "what you must resolve to do and which you must urge others to do if our heritage of freedom is to be preserved," adding that other ways of manifesting faith in the principles of free enterprise will suggest themselves. "We must take our stand and declare our faiths today," he concluded. "If we wait, it may be too late."



"WOULD YOU ORDER THIS CAR?" the Pacific Coast Transportation Advisory Board asked its members in a recent "flyer" which called attention to the fact that "we as shippers pay the bill" for direct and indirect railroad car cleaning costs estimated to total nearly $200 million per year. "Clean your car," the flyer says in part: "be proud when a car leaves your plant that it is representative of the industry which you represent and you are not ashamed to have that car spotted at some other industry for loading"

ABSTRACTS OF A.R.E.A. COMMITTEE REPORTS AND TECHNICAL ADDRESSES

Presentations of 21 groups on 110 subjects are offered in digest form, indicating the action taken on recommendations affecting the Manual

Water Service

H. E. Silcox, Chairman*

Eight reports were submitted by the Committee on Water Service and Sanitation, four progress reports and four final, all being presented as information. No report was presented on two assignments.

Revision of Manual — In a brief report the committee expressed the belief that revision of the Manual should be deferred until the publication of its report on sanitation practices for the construction and operation of camp outfits.

Federal and State Regulations — A brief progress report on federal and state regulations pertaining to railway sanitation states that additional research is necessary before well-founded conclusions can be drawn. Meanwhile, the technical reports are being prepared and it is expected that the final report will be available by June, 1950.

Sanitation in Camp Outfits — The committee's final report on sanitation practices for the construction and operation of camp outfits, which was presented as information, states that approximately 90,000 maintenance-of-way employees live part time in labor camps, of which about 30,000 live in permanent camps. Sanitary conditions at these camps, in general, are fair to good, the report states.

The major part of the report consists of a list of recommended practices for the design and construction of sanitary railway labor camps and a similar list of recommendations for the operation and maintenance of such camps.

Water for Diesels — The committee submitted a progress report on new developments in water conditioning for Diesel cooling systems and steam generators. It points out that the roads that have followed the previous recommendations of the committee in this regard have had little difficulty with locomotive cooling systems. While these recommendations are somewhat restrictive, the report says, some restriction is desirable to avoid damage to the locomotive during the time between a failure in the cooling system and the time repairs can be made.

The desirability of having a set of standards for water conditioning is clearly indicated, according to the report, which adds that such standards, once established, must be adhered to, and that some type of control measures must be adopted to assure that the standards are maintained. The most effective control, it says, can be exercised by terminal forces under the supervision of the railroad's water chemist. The report also gives recommendations to be followed in selecting and treating water for cooling Diesels, and for cleaning contaminated cooling systems.

Foaming in steam generators was given brief attention in the report, with recommendations for minimizing such occurrences.

Railway Waste Disposal — The committee's progress report on this assignment deals with recent federal and state legislation regarding stream pollution. The report highlights the replies of 44 states to a questionnaire prepared by the committee, giving the principal points mentioned under such headings as State Laws, International Law, Interstate Agreements, and Position of the Railroads. In general, it says, no major problems exist which cannot be cleared up by good housekeeping and an informed operating personnel.

Maintaining Steel Tanks—In a final report on inspection and maintenance of steel water tanks, presented as information, the committee recommended regular intervals of inspection, with a maximum interval of five years, and listed the points to which particular attention should be given when making such an inspection. Also included in the report are general rules governing the repair and repainting of tanks. Proper inspection and maintenance, the report states, are essential because of the original investment and the cost of replacement at today's prices. With proper protection, it says, the life of a steel tank may be prolonged indefinitely.

Return Systems — Corrosion and incrustation in return systems was the subject of a final report which was presented as information. The report comments that corrosion and incrustation, long an annoyance, have seemed to become a serious problem in recent years, due largely to the increased cost of pipe and labor to make replacements.

The report discusses the physical aspects of incrustation and recommends control measures. Likewise, it discusses the physical and chemical aspects of corrosion and recommends measures for its control.

Plant Growth in Reservoirs — In a final report on the control of algae and plant growth in water storage reservoirs, the committee dealt first with algae which, it says, exist the world over, controlled primarily by available food supply (soluble salts), temperature, hydrogen-ion concentration and light intensity. This form of life is essential in the plan of nature, but is most troublesome at times to water works men because of the undesirable effects it has on water. Control measures, to date, have depended on the use of algicides, notably copper sulfate, which are distributed periodically throughout the reservoir. Biological control may become a more successful means, however, the report says.

Plant growth has been controlled by mechanical means, such as cutting and dredging. Recently, formagens, such as 2,4-D, have been used with some success. The report concludes with the statement that each problem of algae or plant life must be studied individually.

The entire report of the committee was received without discussion.

*Assistant Engineer Water Supply, Chesapeake & Ohio

Contract Forms

L. A. Olson, Chairman*

The Committee on Uniform General Contract Forms submitted three reports, one of which was a progress report, while the other two were final reports, presented for adoption and publication in the Manual. No report was presented on its other assignments.

Revision of Manual — In a progress report, the committee recommended reapproval of the Forms of Agreement for: Purchase of Electrical Energy for Traction and Other Purposes; Joint Use of Poles on Railway Lands; Placing of Snow or Sand Fences off the Railway Company's Property; and Furnishing Water from Railway Water Systems to Employees and Others, with minor

*Designing Engineer, Chesapeake & Ohio

changes in certain clauses of each form. Also, reapproval, with minor revisions, was recommended of the Form of License for Pipes, Conduits, Drains, Hopper Pits and Other Structures on Railway Property. The Form of Option for Purchase of Land and the Form of Conveyance of Title Granting the Right to Construct and Maintain Buildings on Railway Property were recommended for reapproval without change.

A supplemental report presenting a form of agreement for interlocking plants was submitted for adoption and publication in the Manual, replacing the existing form headed Form of Agreement for Interlocking Plant.

All of the above recommendations were approved.

Flood Protection Projects — The committee submitted a tentative draft of a form for agreement for division of work, maintenance and operation of flood-protection projects.

Flood Control Projects — In a final report, submitted for adoption and publication in the Manual, the committee presented a recommended form of agreement for railroad force account work on flood control projects.

This recommendation was approved.

Value of Forms—W. R. Swatosh, assistant engineer, Erie, Cleveland, Ohio, gave a brief talk in which he emphasized that uniform forms for agreements, contracts, etc., are of great value to the railroads and, properly used, are important engineering tools.

Economics of Labor

H. E. Kirby, Chairman*

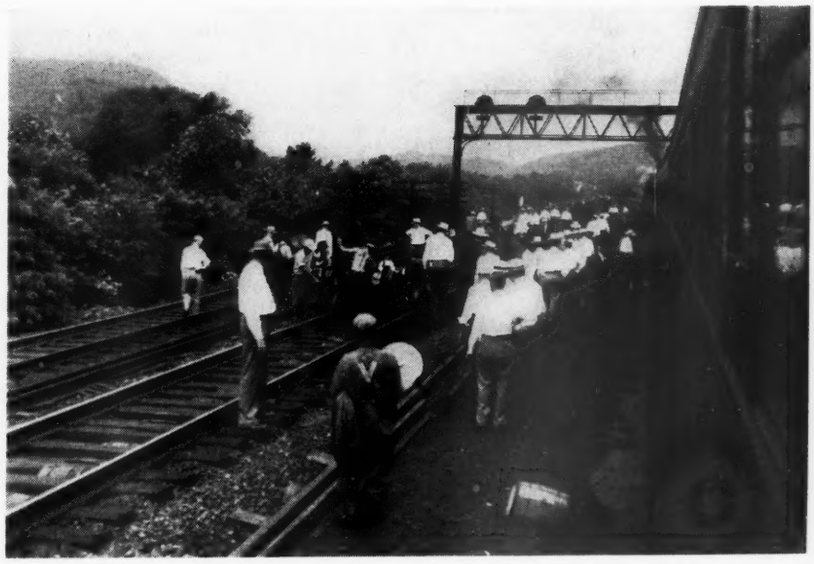
Of its eight assignments, the committee submitted reports on five, all of which were progress reports and, with one exception, were presented as information.

Revision of Manual — The committee recommended extensive changes in Manual material under the heading Housing Maintenance-of-Way Employees, including changing the heading itself to read "Outfit Cars for Housing Maintenance-of-Way Employees." The suggested changes include general suggestions for the design and operation of such cars and lists some of the types of cars in use. It also was recommended that the present Manual material regarding sanitary provisions be withdrawn and assigned to Committee 13—Water Service and Sanitation, with the request that this committee collaborate in this matter with the Committee on Economics of Railway Labor.

The recommendations of the committee were approved.

Reduction of Labor Costs — On its assignment to analyze the operations of railways that have substantially reduced maintenance-of-way labor costs, the committee presented as information an account of a two-day inspection of mechanized operations on the Pennsylvania. The report lists the economies effected on a number of projects that were inspected, including deep ditching, ditch cleaning, pneumatic tamping (both spot and out-of-face), ballast cleaning with on-track and off-track equipment, rail laying, grading, track rehabilitation, track sweeping, and wasting of dirt from ballast cleaning.

*Cost Engineer, Chesapeake & Ohio



The Committee on Economics of Railway Labor observing mechanized rail-laying operation on the Pennsylvania

The report also gives a list of 22 machines whose performance was studied by the Pennsylvania. The study revealed a saving of 3,560 man-hours per year for each $1,000 invested in the equipment.

Organization of Forces — The committee's report this year—a progress report— deals with the organization of forces for use with the Power Ballaster. Pointing out that raising track with this machine is somewhat like an industrial assembly line, the report stresses that plans for its use must be made carefully so that the entire operation will proceed smoothly with good and uniform results. A raise of 2½ in., it says, is the minimum for newly spaced track, while a greater raise is required for track with more solidified ballast.

Unloading and distributing ballast is of great importance to the progress of the machine, the quality of the work and the economy of the job, the report states. Too much or too little ballast, it says, is of equal disadvantage, requiring excessive hand labor to correct the trouble. Constant, competent supervision is required.

A hydraulic jack, working at the joints, is recommended for raising the track, with small jacks being placed at intermediate points to remove suface irregularities. Tamping is done by the machine, with four men who feed ballast into the crib between strokes of the tamping feet. Six strokes of the tamper are usually required at each tie. The report concludes with a typical organization for such work and suggestions for lining and other follow-up work.

Foundations for Crossings — According to the report on labor economies of types of foundations under railroad crossings, the foundation is one of the strongest factors affecting the maintenance of crossings. Among the various measures resorted to in an effort to reduce these costs, the report mentions the use of tie pads, through timber supports instead of cross timbers, pressure grouting of the subgrade, the installation of pipe drainage, and the installation of concrete slabs under 12 to 18 in. of ballast. Labor savings of 25 per cent, it states, have been realized by the use of pads, while savings up to 33 per cent were reported from the use of timber supports and the installation of pipe drainage, and up to 75 per cent through grouting and the use of concrete slabs.

Shorter Work-Week — The committee's report on meeting the conditions imposed by the shorter work-week was based on replies, made by 64 roads, to a questionnaire. The report is extensive and covers a number of important factors. It states that most roads are working their forces Mondays through Fridays, with provision for staggering some forces under certain conditions. Closer and more alert supervision is indicated, but 75 per cent of the reporting roads do not contemplate increasing the supervisory force, while others have already made substantial increases in one way or another. More training for supervisors is thought necessary, but only a few roads reported having a definite program.

Methods of patrolling track have changed little on 70 per cent of the roads, but others have adopted various schemes to patrol track on Saturdays and, in some cases, Sundays. In many cases, such work is a daily, regularly assigned job; in others it is done by

roadmasters or their assistants on Saturdays.

According to the report, lengthening of sections has been considered by 53 per cent of the roads, and has already been carried out by 40 per cent. Increased use of extra gangs—in some cases on a year-round basis—is being resorted to in most instances. Nearly all roads are seeking better and quicker methods of doing work and, in general, will make increased use of machines. In addition some roads are making cost and time studies of operations to learn the cheapest way. Development of new machines is also considered highly desirable.

Also noted by the committee were the economies to be realized by greater use of highway transportation in moving gangs to and from work. Further developments along this line, it said, are to be expected. The roads may be expected to reduce work-train expenses through the greater use of off-track equipment, the use of local freight trains, and by a reduction of delays to work trains through close cooperation with the transportation department.

To improve the track structure, the use of heavier rail, stabilization measures, and more and better ballast will be investigated by a number of roads, and many new and improved materials and methods will be examined in a search for means of reducing the maintenance costs of structures. Organizational changes are being contemplated, according to the report, but relatively few have been put into effect.

History of Committee—Supplementing the technical reports of the committee, George M. O'Rourke, assistant engineer maintenance of way, Illinois Central, and a member of the committee since 1922, briefly reviewed the history of the committee since its inception in 1916, and told of the scope of its work and of its importance to the association, especially as the cost of labor has risen. Special reference was made to the field inspection trips made by the committee to investigate and report on the operations of roads that have substantially reduced the cost of labor required in maintenance-of-way work.

Highways

W. J. Hedley, Chairman*

This committee submitted reports on all of its six assignments. Two were final reports, recommended for adoption, while four were progress reports presented as information.

Revision of Manual — The committee recommended minor revisions in the notes pertaining to the drawing in the Manual of a painted highway crossing sign.

The recommendations of the committee were approved.

*Assistant Chief Engineer, Wabash

Types of Crossing — In a final report on highway-railway grade crossings, which was presented for adoption and publication in the Manual, the committee submitted two tables. One table gives, for the character of the highway or street, reference numbers to the type of crossing recommended for high-speed and low-speed tracks. The second table gives the page in the Manual on which a description of the type of crossing associated with each reference number will be found. The tables presented by the committee were adopted.

Merits of Crossing Protection — A progress report was presented as information on the merits of various types of highway-railway grade crossing protection. In this investigation the committee collaborated with the A.A.R. Signal section, and the Highway Research Board. The report includes a table giving the accident quotient (average number of accidents per crossing per year) at comparable crossings on the Wabash for a 20-year period. The table shows automatic gates to be the most effective means of protection and reflector signs the least effective. Watchmen and automatic bells are also relatively ineffective, the report says.

Crossing Signs — Protection — In a final report on the recommended use of various highway crossing signs and various types of highway grade crossing protection, the committee submitted three tables with the recommendation that they be adopted and printed in the Manual. One table deals with crossing signs, another with crossing signals, while the third deals with floodlighting. Each gives, for a particular crossing situation, the type of sign, signal or lighting that is recommended, and refers to the location in the manual where a description of, or specifications for, the recommended type of protection may be found.

With minor revisions in the first table submitted, all three tables were adopted for publication in the Manual.

Classifying Crossings — The committee's report on method of classifying highway railway crossings with respect to public safety includes a suggested policy on protective devices recently developed by the American Association of State Highway Officers and submitted to its members and the 48 states. The policy, which is based on various combinations of highway and train traffic volumes, together with the speed of trains and highway traffic, was approved by 35 states with little or no comment, while 12 states suggested revisions, 7 of which suggested complete revision. The report concludes with the observation that the railroads, represented by the A.R.E.A., should be full parties to any policy adopted by a highway group, and stated that it will continue to study the subject.

Allocating Costs — In a progress report on the principles for determining allocation of cost of public improvement projects affecting highway-railway crossings, the committee recommended a system of fixed percentages for determining the railroad's share of the cost, rather than the net benefit method. The report gives a suggested schedule of percentages to cover such work, together with data to support its recommendation.

Committee on Work Equipment

R. K. Johnson, Chairman*

Final reports were submitted by this committee on the following subjects: Power mowing machines and attachments; devices for loading and unloading roadway equipment; instructions for the care and operation of company-owned automotive equipment; equipment form to accompany purchase proposal; devices for warming engines to expedite starting equipment in cold weather; off- and on-track equipment and tools to maintain equipment of mechanized gangs; and devices for unloading crossties. All of these reports were presented as information. Two progress reports were also submitted, one of which—dealing with motor cars, trailers and push cars—includes recommendations for revision of the Manual.

Motor Cars and Trailers — In its report on motor cars, trailers and push cars the committee recommended deletion of the present Manual material under the heading Standardization of Parts and Accessories for Railway Maintenance Motor Cars and the substitution therefor of new and more extensive material, including revised drawings, under the new heading Motor Cars.

The recommendations were approved.

Weed Spraying Equipment — In this report the committee pointed out that spraying for vegetation control has in the past been confined, generally, to the ballast section, but is now being extended to cover the right-of-way as well. It then listed three general classifications of spraying equipment—on-track, for spraying the ballast section; off-track, for working in relatively inaccessible areas; and on-track and off-track, for spraying the right-of-way—and presented a brief description of each type.

Power Mowers —A final report on power mowing machines and desirable attachments deals with both on-track and off-track equipment, but points out that many roads are resorting to off-track units, particularly the four-wheel tractor-type mower. It then lists 12 different attachments for the tractor mower which are applicable in maintenance work. The report also discusses briefly the small, two-wheel sickle-bar type of mower, pointing out that it is well suited for use around station grounds and at other points where the larger units cannot maneuver. Blade attachments for this unit, the report says, are of value in removing snow from platforms, walks and crossings. Finally, the report lists three

*Superintendent Work Equipment and Reclamation, Chesapeake & Ohio

One of several types of spray equipment to control vegetation on track and right-of-way shown in the report of the Committee on Maintenance-of-Way Work Equipment. This sprayer has retractable extension spray arms

new units that have been developed recently.

Handling Roadway Equipment — The committee describes in this report the means most commonly used to load and unload roadway equipment. It states that small machines are usually handled with a rail crane when the machines are used in rail-laying operations, but that at least one road has specially equipped flat cars with rails attached to the deck and with a ramp of bent and fitted rails over which the machines are moved. Another road, it says, employs a jib crane for this work. Also described are several types of ramps used to handle crawler cranes and shovels.

Care of Automotive Equipment — In this report the committee submitted a complete set of instructions for the care and operation of company-owned trucks, buses and passenger vehicles. Included are instructions regarding general use, safety and accidents. Under "operation," the report gives general rules relative to testing, adverse weather conditions, warning signals, railroad crossings, handling vehicles on hills and curves, parking, backing, clearances, and disabled vehicles. Maintenance instructions cover lubrication, the cooling system, the ignition system, the fueling system, and the brakes, wheels and tires.

Purchase Proposal Form — The committee submitted a final report on equipment forms to accompany purchase proposals, which was presented as information. The report includes six representative forms, covering as many types of equipment, which might be sent to prospective suppliers. Each form provides space for listing the various features and specifications of the unit in question, including cost, and thus permits ready and accurate comparison of the products of different suppliers.

Cold-Weather Starting — The committee's investigation of devices for warming engines to expedite starting equipment in cold weather developed that there are four types of engine heaters generally in use. The report describes one or more units of each type. Some of the heaters function by heating the water of the cooling system; another type utilizes a heating rod inserted through the oil fill-up line to heat the crankcase oil; a third type employs special starting fluid in a capsule, which is injected into the combustion chamber, where it is ignited by pressure and explodes with great heat; the fourth type is a portable hot air heater and blower which is used to heat the entire engine externally.

Maintaining Equipment of Mechanized Gangs — Under its assignment to investigate off- and on-track equipment and tools to maintain the equipment of mechanized gangs, the committee submitted a final report with the recommendation that the subject be discontinued. The report points out that the investment in equipment used with larger gangs, the cost of unproductive time when these units break down in the field, and the fact that, in many cases today, the operators are not properly trained, makes it highly important to insure a definite program for inspecting, adjusting and repairing such equipment in the field.

Depending on the nature and number of the machines being used, the report recommends the use of cars equipped as mobile repair shops and storehouses for frequently needed parts, one as a tool and supply car, and another, equipped with power bench tools, as a repair shop. Where greater mobility is indicated, the report suggests the use of an auto truck with enclosed, heated and insulated body, equipped with work benches, racks and cupboards. Windows and electric lighting should also be provided. Such units, the report states, can be dispatched readily to repair a breakdown, saving much lost time, and at other times can be used in making regular inspection and repair trips to machines out on the line. The report also recommends the use of a portable building with bridge gangs and other organizations which do not move frequently, such buildings to be equipped like the cars and trucks mentioned. It concludes with a suggested list of tools and materials to be included with each car, truck or building.

Unloading Ties — The report on devices for unloading ties states that no commercial devices for this operation are in general use. Hand tongs and grapples, it says, are widely used, but care is necessary with the latter to avoid damaging new ties. Some homemade devices are in use but are still in the experimental stage. Cranes are frequently used with slings and grapples, while some roads have ties bundled at the treating plant to facilitate handling by crane in unloading. The most prevalent method for unloading along the right-of-way is by hand from gondolas. Special cars have been of great assistance, but are high in first cost and must move empty to the treating plant. The report recommends that, in the interest of safety and economy, the railroads endeavor to develop suitable methods for handling ties.

Organization Needed to Handle Work Equipment—This was the subject of a paper presented as part of the report of this committee by E. Bennett, chief engineer maintenance of way and structures, Southern, Eastern lines. Mr. Bennett traced the increased investment in work equipment, outlined the requirements in trained personnel and in shop facilities for assuring the proper maintenance of this equipment, emphasized the necessity of keeping machines at work as much of the time as possible, and recommended an organization setup for supervising their operation and maintenance.

Report on Buildings

A. G. Dorland, Chairman*

Progress reports were submitted by the committee on three assignments, one of which included recommended revisions of the Manual, while the other two were presented as information.

Revision of Manual — Under this assignment the committee offered, for adoption and inclusion in the Manual, recommendations covering the ventilation of railway shop buildings, and specifications for copper tubing, both having been presented as information at previous conventions. Minor revisions were recommended in the specifications for Ornamental and Miscellaneous Metal Work, and in the text of the Manual under the following headings: Floors for Railway Buildings; Passenger Stations; and Location and Design of Signs for Passenger Stations. New specifications for asphaltic concrete pavements, to replace the current Specifications for Sheet Asphalt Pavements, were presented as information.

All of the above recommendations were approved.

Diesel Shops — The committee pres-

*Assistant Engineer, Elgin, Joliet & Eastern.

ented, as information, a progress report on shop facilities for Diesel-electric locomotives to supplement previous reports on this subject. This discusses in considerable detail practically all of the major factors to be considered in planning such a facility, and includes plan and elevation drawings of a typical Diesel shop. Among other things, attention was given to inspection pit and servicing areas, truck replacement facilities, heating and ventilating, and lubricating oil supply and drainage.

Lumber Specifications — The committee proposed new Manual material under the heading Yard Lumber Specifications for Railway Buildings, to be resubmitted next year for adoption. This report—largely in tabular form—provides specific information on available commercial grades of lumber commonly used for railway buildings and the items for which the various grades are used, together with instructions for using the tables in selecting the lumber to be specified for a particular use.

Moving Stairways in Passenger Stations —This was the subject of a paper presented as part of the report of the Committee on Buildings by Charles E. Lex, Jr., assistant engineer of buildings, Norfolk & Western, Roanoke, Va. Mr. Lex first described how this equipment helps to do away with the disadvantages of steep stairways in two-level stations and to speed up the handling of passengers. He next described a typical moving-stairway installation, and then pointed out a number of measures that should be taken in the interest of maximum safety.

Committee on Ties

B. D. Howe, Chairman*

Progress reports were submitted by this committee on four of its eight assignments, all of which were presented as information.

Adherence to Specifications — In reporting on a field inspection of three wood preserving plants, the committee stated that the presence of weeds and poor drainage was noted at all the plants, and that poor stacking—largely the result of crowding too many ties on one course and of careless operation of mechanical handling equipment—was observed in some instances. It also reported that three railroads are not branding ties in accordance with A.R.E.A. specifications, that another accepts ties on producer's grade and count and later inspects ties as they are stacked, while a third accepts ties with little regard for the A.R.E.A specifications for size and quality. In commenting on these lax practices, the committee observed that the tie producers are sincere in their efforts to provide the kind of ties required for well-maintained track, but that those roads which continue to procure ties at a price based on lax and improper inspection make it difficult for those roads bent on obtaining the best ties possible to compete in the production field.

Substitute Ties — The committee pointed out that practically all of the test installations of substitute ties, reported on in 1940, have been removed and that no new installations have been made. Patent Office records show that 18 new patents for ties have been issued since 1940, but correspondence with the patent owners developed that no test installations have been made. Inquiry by the committee regarding tests of metal ties in Europe produced the information that all resulted in complete failure because of corrosion, as have many steel ties in yard tracks in steel mills in this country. Pointing out that none of the 2,500 patents for substitute ties has been adopted, the committee observed that the materials for such ties should be extended to include non-corrosive metals, plastics or other more durable substances.

Tie Renewal Record — In reporting on tie renewals and cost per mile of maintained track, the committee directed attention to its tabulation of these figures in a midyear bulletin. A decrease in the number of ties installed in 1948 as compared with 1947 was noted and it was pointed out that the average cost per tie was $0.18 greater in 1948 than in 1947.

Protective Coatings — A progress report on bituminous coatings of ties for protection from the elements mentions that such coatings are being tested by several roads in this country and Canada, but states that all of the tests are in their infancy, thus making it impossible to draw definite conclusions at present. The report includes details of an inspection of one such test—now in service for two years—in which the coating material appears to be performing satisfactorily.

The entire committee report was received without discussion.

Joint Investigation on Ties—Supplementing the committee's report, G. M. Magee, research engineer of the A.A.R. Engineering division, reviewed the joint investigation being carried out by the A.A.R. and the National Lumber Manufacturers Association to develop methods of retarding the splitting and mechanical wear of ties, including the stabilization of wood. He reported considerable progress in the investigation and said that studies made indicate that abrasion of the tie is due primarily to the horizontal movement of the tie plate on the tie, with further evidence that the penetration of moisture between the bottom surface of the tie plate and the tie is an important factor in the rate of abrasion. Mr. Magee also told of the accelerated loading machine designed by the Ramapo Ajax Division, American Brake Shoe Company, and being used to produce repeated tie plate loads on tie specimens; of efforts to develop means of treating ties in one operation; of various types of coatings to be applied to the tops of ties in track to fill and retard the further progress of existing cracks and checks; and of the consideration being given to the possible production of laminated ties.

*Chief Lumber Inspector, Louisville & Nashville

Committee on Clearances

A. R. Harris, Chairman*

The committee submitted progress reports on two of its five assignments, including one on revision of the Manual.

Revision of Manual — Under this assignment the committee recommended minor revisions in the wording of one sentence appearing in the Manual.

These revisions were approved.

Clearance Requirements — In a progress report presented as information, the committee submitted a tabulation of the railroad clearance requirements of the various states and Canada, brought up to date as of June, 1949.

*Engineer of Bridges, Chicago & North Western

Cooperation with Universities

S. R. Hursh, Chairman*

The committee on Cooperative Relations with Universities presented progress reports, as information, on all of its three assignments.

Stimulating Appreciation on Part of Management — In reporting on its two-part assignment to stimulate greater appreciation by railway management (1) of the importance of bringing selected college graduates into railway service, and (2) of the necessity for providing adequate means of recruiting such graduates and retaining them in the service by establishing suitable programs for training and advancement, the committee summarized the replies received to two questionnaires, one of which had been sent to railroads and the other to colleges.

The purpose was to develop data on the starting salaries paid to engineering graduates in the employ of railroads and other industries, along with other related data.

Of the 32 roads reporting, only 11 interviewed prospective graduates, according to the report, indicating little initiative on the part of the roads, even at a time when engineers were scarce. On the other hand, the replies of 48 colleges show that the starting salary offered by railroads is in line with that offered by other industries, indicating that higher average starting pay is not needed at this time.

*Assistant Chief Engineer—Maintenance, Pennsylvania

The report states that 30 per cent of the graduates employed in 1947 had left the service by September, 1948, and that 13 per cent of the 1948 graduates had quit by that time. Among the reasons given for leaving are ability to earn more in other fields, lack of definite schedules for advancement, long hours, considerable absence from home, frequent moves, limited vacation and high retirement taxes.

The report then discusses this situation and quotes several comments of the universities. It points out that, while the demand for engineers has lessened, the railroads should seize upon this situation to foster closer relations with engineering schools to develop practices which will insure their getting the "cream of the crop." An appendix gives a detailed summary of the replies to the questionnaires.

Stimulating Student Interest in Transportation — Under its assignment to stimulate among college students a greater interest in transportation and its importance in the national economic structure, the committee reported that its activity was largely confined to making talks to student groups at the various engineering schools. To increase the effectiveness of this endeavor, the membership of the committee was increased from 8 members to 15 members and now includes 7 college representatives. In addition the chairmen of all standing committees of the association were asked to request the members of their respective committees to address student groups whenever such an opportunity arises.

Cooperative Education — Summer Employment—In reporting on the cooperative system of education, including summer employment in railway service, the committee listed 12 roads which regularly hire engineering students for vacation or cooperative work. On request, these roads furnished the committee the names of the students and their respective colleges. The committee then asked the various deans to interview the students to obtain their reactions to railway work. The reports of these interviews, most of which are exceptionally favorable, are abstracted in an appendix to the report.

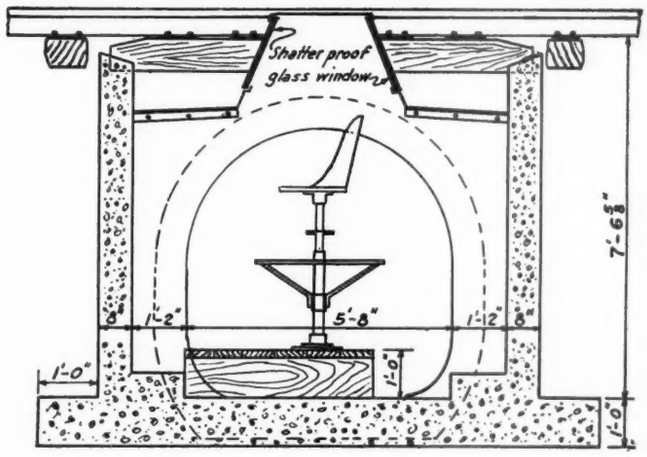
Yards and Terminals

W. H. Giles, Chairman*

The committee reported on six of its ten assignments. Four final reports and two progress reports were made, all being submitted as information.

Classification Yards — In collaboration with the Committee on Economics of Railway Location and Operation, the committee presented a progress report on classification yards, which describes eight basic track layouts for flat switching yards and lists a number of points that must be considered when designing such yards.

*Engineer of Design, Missouri Pacific



Cross section of a precast concrete pit for the underside inspection of freight cars at terminals—one of several types illustrated in the report of the Committee on Yards and Terminals

Bibliography — The committee submitted its annual bibliography on subjects pertaining to yards and terminals which have appeared in recent publications.

Handling L.C.L. Freight — A final report on facilities for mechanical handling of l.c.l. freight, prepared in collaboration with the Committee on Buildings, was presented as information. After a brief discussion of the general aspects of the subject, the report lists 19 of the most commonly used types of equipment on 28 roads, and gives the total number of each type in use. Other facilities are also discussed briefly in the report.

Design of Yards — In reporting on its assignment to investigate the relative advantages and physical factors to be considered in the design and selection of flat, gravity and hump yards for handling various volumes and kinds of traffic, the committee submitted, as information, a final report which, because of the broadness of the subject, deals only with the volume and kind of traffic and the physical factors affecting design.

The report suggests the type of yard for locations where traffic volumes amount to as much as 500 cars daily, 500 to 1,000 cars daily, 1,000 to 2,000 cars daily, or more than 2,000 cars daily. However, the design, based on volume, must be modified to satisfy other factors, some of which are mentioned in the report. A procedure to be followed in studying the economics of specific locations before selecting the type of yard is given at the end of the report.

Layouts for Use with Hump Scales — A final report was presented as information on the design of the track layout and gradient in connection with scales located on the hump of a classification yard. The report discusses track layouts, the gradients required for spot and motion weighing, and the relation of gradient to scale length, with general recommendations for each.

Under-Car Inspection Pits — Under its assignment to investigate recent developments in under-car inspection of freight cars, the committee submitted a final report which was presented as information. It describes several types of inspection pits which have been installed on the humps of classification yards and includes drawings of three types. The report concludes with a list of general observations regarding the design, location, lighting and use of such pits.

Roadway and Ballast

H. W. Legro, Chairman*

This committee submitted progress reports on three of its ten assignments. No report was made on any of the remaining assignments.

Revision of Manual — The committee recommended reapproval, without change, of the present Manual material under several headings.

This recommendation was approved.

Physical Properties of Earth Materials — The committee's report on this two-part assignment deals with part (a) only—Roadbed, load capacity, relation to ballast, and allowable pressure. This report, in turn, is in two parts, the first of which continues the report made last year on the study of soil pressure in the roadbed, through the use of soil pressure cells installed in the main line of the Chicago, Burlington & Quincy near Red Oak, Iowa. The tests, which have now been discontinued, were made with strain gages placed between the tie plates and the ties, and the pressure cells were arranged symmetrically on each side of the center line of the track, to cover a 14-ft. width of roadbed at a level 4 ft. 8¼ in. below the tops of the ties. Five consecutive ties were so tested, with the lateral row of pressure cells being directly below the center tie.

Data from the tests are discussed fully and are presented in chart and tabular form. In summary, the report states that

*Engineer of Grade Crossings, Boston & Maine

the procedure followed appears to have been successful in obtaining the desired records and that stabilization measures seem to change the distribution of the load over the roadbed. It also states that steam locomotives create greater subgrade pressures than Diesel-electrics and recommends further research to determine the pressures that develop under other conditions of subgrade, moisture and ballast.

The second part of the report concerns the committee's investigation of stability of compacted embankments. This study covers relatively new embankments, which were constructed by methods similar to those employed in building earth dams, but which have not performed satisfactorily in service. This year's report gives the results of a study of a series of fills on the Missouri-Kansas-Texas in northern Texas, which have been in service since 1944, and which have been highly unstable. This instability, the report states, is due primarily to volume changes of the material within a few feet of the surface of the fill where confining pressures are relatively low, a property of the materials that could only have been discovered by mineralogical analysis and swelling tests. An appendix describes the equipment for determining the subsurface compressive stresses in the field.

Roadway: Formation and Protection — The committee reported on two of the three subassignments under this general subject, namely, (a) roadbed stabilization and (b) the construction and protection of roadbed across reservoir areas. Part I of the report on stabilization deals with field studies of the methods used and the results of stabilization measures at various locations. Two recent projects are described in detail, one of which was done by grouting, while the other involved sand-filled blast holes. Part II of the report suggests procedures to be followed when stabilizing roadbed. This lists the more common types of instability—water or ballast pockets and slides of three general categories—and discusses each briefly. It then describes the equipment and procedure for stabilizing by pressure grouting, driving of ties or poles, driving of spud holes and filling these with sand, and the use of sand-filled blast holes.

Part III of the report tells of the laboratory investigation of roadbed stabilization being made at the University of Illinois. This work, in the main, has involved the study of the behavior of a simulated roadbed which is subjected to a pulsating vertical load of which the magnitude and number of applications per minute are comparable to those produced by a freight train traveling at 60 m.p.h. Last year, a report on the tests dealt with subgrade materials only; this year's report concerns similar tests with ballast. Tests were also made of cement grouting of the simulated roadbed. The tests are described in some detail in the report and the results are presented in numerous charts. According to the report, further investigation is necessary before definite conclusions regarding the factors that cause soft spots in roadbed can be reached.

The progress report of subassignment (b)—construction and protection of roadbed across reservoir areas—offers a guide for determining the proper freeboard, or vertical distance between the high water level of a reservoir and the top of the riprap on the slope of the railroad embankment, necessary to prevent the riprap on the slope from being topped by wave action during periods of high winds. The report includes an empirical formula for determining the freeboard and also includes a chart, based on the formula, from which the freeboard may be determined readily.

Chemical Weed Killers—Supplementing the report of the committee, Jack Taylor, a graduate student at Virginia Polytechnic Institute, presented an illustrated discussion of a research program on chemical herbicides for railway use, conducted with the cooperation of the R. H. Bogle Company, Alexandria, Va. The program involved on-track tests at six different locations throughout the Southeast, and the testing of 30 different weed killers and combinations of killers. Only seven of these killers or combinations were reported as having demonstrated real merit, within a feasible cost range, for ballast treatment in the Southeast. Each of these was discussed as to its effectiveness, and conclusions were presented as to the effect of soil conditions, weather conditions, and time of application.

Grouting a fill on the Virginian at Westgate, Va.—one of the installations reported on by the Committee on Roadway and Ballast in connection with its study of roadbed stabilization

Records and Accounts

M. F. Mannion, Chairman*

The Committee on Records and Accounts made progress reports on five of its seven assignments. Of these, one was submitted for adoption and publication in the Manual, the remainder being presented as information.

Bibliography — The committee submitted a list of books, pamphlets and articles on subjects pertaining to records and accounts for the period November, 1948, to October, 1949.

Office and Drafting Practices — Under its assignment to investigate this subject the committee submitted a tabulated digest of those sections of the laws of the 48 states, Alaska and Hawaii governing the registration of professional engineers as might affect office procedure. The tabulation does not include information of interest to the individual only—qualifications of the engineer, fees, examinations, etc.

Reports and Property Records—A progress report on construction reports and property records and their relation to current problems was submitted for adoption and publication in the Manual. It states that, while construction reports and property records are familiar to all railway engineers and to most railway executives, many are not familiar with how these reports affect transportation costs and corporate earnings. It then lists 12 general uses of the reports in accounting, tax computation, bankruptcy and reorganization proceedings, stock and bond issues and refunding, rate cases and similar applications and then supplements this with a list of 21 special uses.

The report of this committee was adopted for publication in the Manual.

Valuation and Depreciation — The committee submitted, as information, two progress reports on valuation and depreciation, one dealing with current developments in connection with courts and regulatory bodies and the other concerning the development of depreciation data. The first report discusses: Curtailment of activity of the I.C.C. Bureau of Valuation, resulting from a reduction in appropriation; elements of value; the use of valuation data in the 1948 rate case; and pipe line valuations. The report also calls attention to the 1949 report of the Committee on Valuation of the National Association of Railroad and Utilities Commissioners, which reversed a prior opinion of that body that original

*Officer in Charge, general payroll department, Bessemer & Lake Erie

cost is the only proper base to use in a rate case.

The report on development of depreciation data calls attention to a judgment handed down by the Board of Transport Commissioners of Canada condemning the use method of depreciation for roadway and equipment. The judgment is quoted in part.

Accounting Classifications — Under revisions and interpretations of I.C.C. accounting classifications, a progress report was submitted which quoted a ruling of the I.C.C. Bureau of Accounts, handed down September 1, 1949, directing that cost of a car, not self-propelled, which is equipped with an oil-fired steam boiler, Diesel-driven generator, air compressor or battery-charging equipment, should be included in Account 54, "Passenger-train cars," for the reason that such units are auxiliary to passenger-train cars which they serve.

Vital Statistics—Highlighting the committee's presentation this year was an address by A. A. Miller, chief engineer, maintenance of way (retired), Missouri Pacific, and a past president of the association, on Vital Statistics in Railway Engineering. Mr. Miller characterized adequate records, statistics and accounts as essential to giving proper and positive direction to present and future decisions and activities. When adequately and fearlessly used, he said, statistics will reduce to a great extent the influence and effects of mere opinions and the exercise of immature judgment. Officers can only know what efficiency really is, he said, by a skillful use of statistics to direct the way, and by adequate accounting to measure the input and output.

Report on Rail

Ray McBrian, Chairman*

On its 11 assignments the Committee on Rail presented 10 reports all of which were progress reports offered as information. No report was made on the causes of and remedy for rail-end batter.

Revision of Manual — No revision of Manual material was recommended this year, but a progress report on this subject states that changes in the Specifications for Open Hearth Steel Rails are being studied. The report also states that a canvass is being made of A.A.R. member roads to determine their views on adopting a length of rail greater than 39 feet.

Service Life, Causes of Rail Failures — A report on condition affecting the service life of rail, causes of rail failures and other defects deals with the investigation of rail failures conducted at the University of Illnois under the auspices of the A.A.R. and the American Iron and Steel Institute. It includes tabular material regarding the failure of 24 control-cooled rails which were examined during the past year. In commenting on this investigation, the report states that failures from hot torn steel declined 1/3 of the number found the previous year, and that none were found in rails rolled since 1945, adding that this situation is most encouraging.

The report also discusses preliminary tests of rail with welded bond wires. Metallographic, hardness, Charpy and rolling load tests were included in the investigation, which revealed that some martensite is produced in the rail head area by welding the bond wires. Although this material is hard and brittle, the reports states that more laboratory and service tests are necessary before definite conclusions can be drawn.

Rail Failure Statistics — Under this assignment the committee presented in tables and charts statistics on rail failures reported to December 31, 1948. These show a rapid increase in the number of transverse defects found since 1946 and the report states that this is probably due to one or more of the following causes: (1) Increase in transverse defects from shells, etc.; (2) increased ability of detector cars to detect them; and (3) incorrect reporting by detector car operators of plain shells as transverse defects, such errors not being discovered by roads which do not break rails for verification.

In commenting on a table showing the verified transverse fissures in open-hearth control-cooled rail, the committee pointed out that the number of fissures due to hot torn steel decline from 21 in the 1936 rollings to none in the rollings of 1946-1948 inclusive, indicating that the mills have overcome this manufacturing difficulty.

Economics of Rail Sizes — In reporting on the economic value of various sizes of rail, the committee gave the results of comparisons of rail sizes on two roads. One—the Illinois Central—set up two adjoining test sections, each 20 mi. long, with nearly identical conditions of tonnage, roadbed and operation, one track being laid with 115-lb. and the other with 131-lb. rail. After five years' service, the report states it was found that the cost of maintaining the 131-lb. test section was $351 per mile per year less than for the lighter rail.

The other road—the Pennsylvania—made a study of the cost of using the 100-lb. PS, 133-lb. RE and 155-lb. PS sections. The study was based on 38,000,000 gross tons annual traffic, and took into consideration service life, the initial cost of laying, spot lining and resurfacing, rehabilitating the track, tie and ballast requirements, and carrying charges. According to the report, the annual cost per mile for 100-lb. rail was $10,148; for 133-lb. rail is was $7,461; and for 155-lb. rail, $6,098.

Continuous Welded Rail — Collaborating with the Committee on Track, the committee summarized the installations of continuous welded rail in track; installations by different processes and failures therein; additional failures reported this year; and a summary of complete installations, removals and renewals. In comment, the report observes that the gas pressure weld has been both satisfactory and safe, with only five failures in the 1939 installations and only three failures in those made in 1941 and thereafter.

Service Tests of Joint Bars — The report on this subject consists primarily of a description of tests of various types of joint bars for 115-lb. RE and 132-lb. RE rail. The test of 115-lb. bars is being made on the Chicago & North Western; that of 132-lb. bars is on the Atchison, Topeka & Santa Fe. The purpose of the tests is to determine the dynamic stresses developed in the bars under service conditions and to develop other related data, according to the report. The results to date, it says, show that the stress patterns for the joints tested are quite satisfactory.

Joint Bar Wear and Failures — On its assignment to study joint bar wear and failures, including revisions of design and specifications for new bars and bars for maintenance repairs, the committee presented, in an appendix, the eighth progress report of the rolling-load tests of joint bars being made at the University of Illinois.

The rolling-load machines described in previous reports are being used in these tests, the report states, and joints are considered as having failed when a fatigue crack reaches one-half of the bar height. A total of 24 tests were made in the past year, being divided equally between 115-lb. RE head-free 36-in. bars, and 133-lb. RE head-contact 36-in. bars. The report states that the 115-lb. bars failed after an average of 1,462,450 loading cycles, while the 133-lb. bars failed after an average of 509,200 cycles. Magnaflux examination of each of the companion bars revealed cracks in all cases.

Fractures from Locomotive Burns — A progress report on rail fractures resulting from locomotive-wheel burns deals with the repair of such burns by oxyacetylene or electric welding and describes tests at the University of Illinois in which 21 rail specimens were burned artificially in the wheel-testing machine under controlled conditions to produce burns of as nearly uniform size, appearance and character as possible. Ten of the rails were then tested in the rolling load machine, with results which indicate, the report states, that burns on which the build-up of metal is away from the wheel path have a considerably longer fatigue life than burns on which the build-up is toward the wheel path. Tests of hand-welded burns have not progressed to the point where conclusions can be drawn.

Shelly Spots—Head Checks — In reporting on the causes of shelly spots and head checks and methods for their prevention, the committee noted that the work to date has failed to disclose a solution to the problem. The report then lists six items of interest brought out in these studies which may prove important with further investigation and

*Engineer Standards and Research, Denver & Rio Grande Western

tells of several tests being made on various roads of specially treated rails. An appendix to the report consists of the eighth progress report of the shelly rail studies at the University of Illinois. This describes the examination in the laboratory of shelly rails taken from service and the production of shells in the laboratory by the use of the cradle-type rolling load machine. Results of these tests are presented in tabular form in the report, which also states that this investigation will continue.

Another appendix contains a summary report of the examination at Bartelle Memorial Institute of shelly rails which contained detail fractures. This report states that the purpose of the current investigation is to examine the defects of this nature discovered by detector cars and to determine if the chemistry, mechanical properties or structure of these rails differ from those of other rails. The report is extensive, being based on the studies of 54 specimens, and includes a number of charts and tables setting forth the results of the various tests.

Developments Affecting Rail Section — The committee's progress report on recent developments affecting rail section states that the following topics are now being investigated: Study of fatigue of rail web steel; field measurement of stresses in the new rail sections; and a study of web stresses within joint bars. In discussing the fatigue of rail web steel, the report and an appendix tell of tests in which rail specimens were subjected to fatigue tests while being subjected to continuous, but varying, amounts of tap water and water containing known corrosive agents. These tests show that corrosion causes the specimens to fail much sooner than when no corrosion is present, according to the report, which adds that this situation obtains even with ordinary tap water. It recommends taking adequate measures to fight corrosion, thus eliminating a large percentage of premature fatigue failures. In the appendix it is recommended that continuation of corrosion fatigue tests be made under conditions representative of service conditions.

Another appendix to this report discusses the study of web stresses in the new 132 RE section, made by the research staff of the A. A. R. Engineering Division. These measurements were made in tracks on the Atchison, Topeka & Santa Fe and were taken both inside and outside the joints. The results, the report states, show that an adequate reduction in the web stress outside the joint has been made as compared with the 131-lb. RE section, and that a satisfactory relationship exists between service stresses in the joints and the fatigue life of the rail steel, provided no unusual corrosion is present. Measurements of similar stresses in 115-lb. RE rail have not been completed.

Rails Investigation—Speaking on Classification and Causes of Rail Failures, R. E. Cramer, special research associate professor, University of Illinois, in charge of the rails investigation being conducted jointly by the A.A.R. and the American Iron and Steel Institute, told of the greatly increased safety in rail transportation as the result of the study of rail failures over the past 20 years and emphasized that it is still important that all railroads classify their failures alike, and that accurate statistics be collected on these failures. In this way, he said, it is possible to determine which type of failure needs correcting first. Statistics in 1931 showed the paramount problem then to be the transverse fissure. Today, he said, the most important problem is detail fractures, and from recent statistics, he pointed out, it appears that bolt hole breaks and head and web separations are becoming important.

Shelling of Rail—In a second talk presented in conjunction with the committee's report, G. K. Manning of Battelle Memorial Institute told of the work being done by the institute on detail fractures resulting from the shelling of rail in a program sponsored jointly by the A.A.R. and the American Iron and Steel Institute. For several years under this program, he said, attention was focused on shelly rail, whereas somewhat over a year ago the emphasis was redirected to give primary consideration to the matter of detail fractures resulting from shelling. During the last year, according to Mr. Manning, ten major roads selected examples of detail fractures from shelling and sent them to Batelle for examination. These were subclassified according to the nature and size of the horizontal cracks present and an attempt was made to relate the presence of the cracks to some characteristic of the steel. No such relationship could be found. These results, said Mr. Manning, led to the conclusion that work during the next year should be directed primarily to a study of the mechanism by which stresses gradually build up at the gage corner of the rail to the point where cracks may be found.

What Size Rail?—Commenting on the committee's report on the Economic Value of Various Sizes of Rail, G. M. Magee, research engineer of the A.A.R. Engineering Division, presented a series of observations, pointing out that the large increases in material and track maintenance labor costs in recent years have stimulated renewed interest in the possibilities for economies in the heavier sections of rail. Referring specifically to the subcommittee report, which included two studies of the actual service use of different sizes of rail, Mr. Magee said that it is evident from these studies that the longer life of the heavier rail sections will mean that a smaller tonnage of rail will be required for renewals, with savings in track maintenance costs that will show a profit on the investment in the heavier sections. These studies, he continued, show that railways having moderate traffic densities should give serious consideration to the use of the 132 RE rail section or equivalent, and that lines having heavy traffic might well consider the use of rail as heavy as the 155 PRR section.

The Problem of the Steel Rail—Still another feature of the committee's presentation was a paper by L. H. Winkler, metallurgical engineer, Bethlehem Steel Company, who, in considerable detail, reviewed some of the contributions to rail steel manufacture resulting from cooperation between engineers of the steel industry and the railroads during the past 50 years, and emphasized some of the "unfinished business" in this regard for

Two of the devices for unloading ties, shown in the report of the Committee on Maintenance-of-Way Work Equipment—left, hand tongs, and right, a grapple

the years ahead. He discussed the problem of rail shelling and the associated phenomenon of detail or progressive failures. Also discussed were experiments being made or planned with heat-treated and alloy steel rails, but he called for continued studies of design and metallurgy, and also for special field studies directed specifically at the problem of rail shelling. The remainder of Mr. Winkler's paper was devoted to a discussion of the severity of the service currently required of rails, and the need for more effective efforts toward the standardization and simplification of the steel products used by the railways.

Bridges and Trestles

C. V. Lund, Chairman*

Five progress reports were made by the Committee on Wood Bridges and Trestles, all of which were presented as information.

Revision of Manual — The committee recommended the deletion of the present material in the Manual under the headings Value of Treated Timbers in Wood Bridges and Trestles, and Use of Lag Screws in Trestle Construction. It also recommended deleting the material on Merits of Galvanized Iron Fastenings for Wood Trestles and the substitution therefor of new material headed Use of Protective Coatings for Iron and Steel Fastenings for Wood Bridges.

These recommendations were approved.

Design Specifications — A progress report on specifications for design of wood bridges and trestles recommends a minor change in the Manual material under this heading with regard to locations of extreme exposure and the use of timber treated to resist decay. A table of allowable bolt loads for use where conditions of usual exposure exist was included in the report.

The recommended changes in the Manual were adopted.

Inspecting Trestles — The committee submitted a progress report on instructions for the inspection of timber trestle railway bridges, which consists of a complete set of instructions describing the manner of inspecting a timber bridge. It lists general rules, details of inspection, and recommended practices. No attempt was made to set up an inspecting organization, fix responsibilities, or prescribe the duties of the members of such an organization.

Fireproofing — Under its assignment to investigate methods for fireproofing wood bridges and trestles, the committee submitted a progress report which gives the results of a survey to determine current practices on a large number of roads. The survey showed that most roads are replacing open-deck trestles with ballasted decks as rapidly as possible. However, clearance limitation, economy and other factors prevent carrying out this program on a large scale. The report then lists the principal methods of providing fire protection on open-deck structures—these being metal protection, coatings of various types, impregnation with fire-retarding chemicals, and fire alarm systems—and discusses average cost and advantages and disadvantages of each.

Statistics — In developing statistics relating to wood bridges and trestles, the committee issued a questionnaire to the member roads requesting information on their practices and standards with regard to timber trestles. In reply, 5 roads stated that they had no timber trestles in service, 16 had no untreated trestles, and 8 had no treated trestles. The replies of 47 roads having timber trestles appear in tabular form in the reports. The table shows the number of track feet of timber trestles in service, the types currently used or considered standard construction, the policy of the roads in replacing trestles, and information regarding the types of wood used, design stresses and prevalent types of failures.

Fire Retardant Treatments for Wood— T. R. Truax, chief of the Division of Wood Preservation, Forest Products Laboratory, Madison, Wis., presented a paper on this subject as part of the report of the Committee on Wood Bridges and Trestles. After describing the limitations of fire-retardant treatments for wood, Mr. Truax discussed at length the two general methods for improving the performance of wood under fire conditions—the impregnation treatment, in which chemicals are deposited in the wood, and the application of coatings or layers of other noncombustible material over the surface of the wood. Finally, he made a comparison of the impregnation and coating methods and discussed the possibility of future improvement.

*Assistant Engineer, Chicago, Milwaukee, St. Paul & Pacific

Economics—Operation

C. H. Blackman, Chairman*

This committee submitted two final reports and three progress reports on five of its seven assignments. All of the reports, except that on revision of the Manual, were presented as information. Also included is an index of previous reports made by the committee.

Revision of Manual — The committee recommended a number of minor revisions in the wording of material in the Manual and also offered new material to replace that now appearing under the headings: Operation of Trains Against Current of Traffic on Multiple Tracks; the Cost of Stopping and Starting Trains; and Formula for Determining Comparative Economies of Flat and Hump Yard Switching.

The recommendations of the committee were approved.

Solution of Special Problems — The committee presented a progress report on methods and formulas for the solution of special problems relating to economics of railway operation, in which it describes the changes that have taken place on the Chicago, Indianapolis & Louisville since that road emerged from receivership in May, 1946. These changes, which have involved an expenditure of $20 million, have included the complete Dieselization of the road; the retirement of all steam locomotives and the facilities incidental to their operation; improvements in the track structure and alinement; the acquisition of new passenger and freight cars; the installation of interlockings at three unprotected railway crossings; and improvements in freight and passenger schedules.

The report includes operating statistics for the years 1946-1949†, which indicate that operating efficiency has been substantially increased. Also included is a statement showing the saving due to Diesel operation in 1948 over the cost of steam operation in 1946. This saving, it says, amounted to $1,405,245. The report concludes with a statement that the committee intends to continue its observation of the Monon and to report the results of its modernization in succeeding years.

Modern Power Units —In a progress report on electrification and the development of modern power units, in the investigation of which the committee is collaborating with the Electrical section, Engineering Division, A.A.R., and the Mechanical Division, A.A.R., it is recommended that further study be deferred until more data have been accumulated and until performance data on present exploratory motive power designs are available. The report includes three tables in which significant operating and repair cost figures are given for 27 groups of freight Diesel locomotives, 23 groups of passenger Diesels, and 32 groups of Diesel switchers. Also included are nine charts in which operating, repair and fuel costs are plotted against the age of the locomotive units in months.

Cost of Transportation and Operation — Under its assignment to investigate the cost of railway transportation and operation over the past 100 years — principal controlling elements and economic significance, the committee presented, as information, a final report based on a study of railroad revenue ton-miles and the ton-miles of other carriers, the national population, and the national income, expressed in terms of the purchasing power of the 1926 dollar, between 1899 and 1947, inclusive. Pointing out that the statistics available are too limited to permit satisfactory deductions, the report discusses briefly the more significant facts brought out in this study.

Location of Yards — In studying the effect of the location of yards on the economics of railway location and operation, the committee collaborated with the Committee on Yards and Terminals. The report is final and was presented as information. It lists ten factors which have important bearing on the economics of operation of a yard and three factors

*Chief Engineer, Louisville & Nashville

†Six months of 1949

which affect the economics of the location of a yard.

Improvements to Physical Plant—An address by John W. Barriger, president of the Chicago, Indianapolis & Louisville, presented as part of the report of this committee, dealt with the need for bringing the physical properties of the railroads to higher standards generally if the roads are to hold their own against competing agencies. Discussing the operating advantages of Diesel-electric locomotives, Mr. Barriger emphasized that still greater advantages will accompany their use on comparable runs over routes with improved characteristics. Other types of physical improvements that are required today were also discussed.

Wood Preservation

G. B. Campbell, Chairman*

This committee submitted progress reports, as information, on 6 of its 11 assignments.

Service Test Records — The report on this assignment is in tabular form, and shows the performance of ties in test sections of track on the Great Northern and the Chicago, Milwaukee, St. Paul & Pacific up to the time of the latest inspections. The tests on the latter road are being conducted by the Forest Products Laboratory.

Marine Organisms — The progress report on destruction by marine organisms and methods of prevention consists largely of reports, secured from the Southern Pacific and testing stations at various points along the East coast, of tests of woods treated with various preservatives and submerged for exposure to marine life. These specimens were reported as showing varied results ranging from light to heavy attack and, in some cases, complete failure. A brief discussion is included which points out that marine borers in destructive numbers have been found many miles at sea, making it conceivable that borer infestation may develop in harbors which have been free from borers for many years.

Creosote-Petroleum Solutions — The committee said that it has given further consideration to several phases of this subject. Last year it presented the Standard Volume Correction Table for Creosote-Petroleum Solutions, and this year it presented the table again, recommending that it be adopted and included in the Manual.

This recommendation was approved.

New Impregnants and Procedures — The report on new impregnants and procedures for increasing the life and serviceability of forest products reviews the four new impregnants discussed in last year's report and points out that the committee should collect service-life data on these preservatives. In addition, it recommends further study of improvements in existing preservatives and of other new preservatives as they are developed.

Incising Forest Products — This report describes the results of tests of red oak ties by the Great Northern and of beech and hard maple ties by the Minneapolis, St. Paul and Sault Ste. Marie. The ties of each road, relatively free of surface checks, were divided into four groups, two of which were bored and incised. The ties were then stacked by groups, there being two types of stack for each group. After a year, the ties were inspected for seasoning checks. This inspection disclosed that incising was of some small benefit on the red oak ties, and was somewhat more effective on the ties of beech and maple. The ties were subsequently treated with a 50/50 creosote-petroleum solution and installed in track, where they will receive further observation.

Conditioning Forest Products — On its study of artificial seasoning of forest products for treatment, the committee presented a progress report as information. It discusses studies made by the Atchison, Topeka & Santa Fe to determine the effectiveness of urea impregnation, prior to preservative treatment, for retarding checks in beech and hard maple during seasoning. The committee found that, prior to preservative treatment, ties which had been treated with urea had fewer and less severe checks than the controls. After five years, however, there appeared to be no appreciable difference in condition between the control specimens and ties that were pre-impregnated with urea.

*Tie and Timber Agent, Missouri Pacific

Report on Track

E. W. Caruthers, Chairman*

The Committee on Track made progress reports on seven of its ten assignments. Although no report was made on Revision of Manual, several reports on other subjects include new or revised plans for publication in the Manual or the Portfolio of Trackwork Plans.

Track Tools — The report on track tools was made in collaboration with the Committees on Roadway and Ballast, and Economics of Railway Labor, and with the Purchases and Stores Division, A.A.R. It recommends revision in the design of the claw bar adopted by the association last year. Changes were also made in the design of the pipe-center and wood-center track gages to permit greater use of these tools where both rails are lipped. Plans of the revised designs are included in the report, which recommends that they be adopted and published in the Manual.

This recommendation was approved.

Plans for Switches, Frogs, Crossings, etc. — A progress report on plans for switches, frogs, crossings, and spring and slip switches, made in collaboration with the Signal Section A.A.R., consists largely of a series of eight revised plans, prepared for inclusion in the Portfolio of Trackwork Plans in substitution for corresponding existing plans. The revised plans are for frogs of various types and frog angles, and for bolted rail and manganese steel insert crossings of various angles. A graph showing limitations for the use of crossings with rigid-center frogs is also included. In addition, the report recommends revision of the plan of crossing design and recommended practices.

These recommendations were approved.

An appendix to this report gives the results to date of service tests of crossings of various designs and manufacture being made at locations convenient to Chicago by the research staff of the Engineering Division, A.A.R.

Damage from Brine Drippings — In a progress report on prevention of damage resulting from brine drippings on track and structures, the committee pointed out that this subject was last reported on in 1944, and then reviewed briefly the laboratory and track tests carried out up to that time. These tests showed that sodium dichromate is effective in neutralizing brine, provided it can be introduced so as to avoid contamination of lading. According to the committee, the most practical way to accomplish this appeared to be through the use of a dichromate filter attached to the spouts of refrigerator cars.

The current report deals with an investigation to develop such a filter, which is being carried out by Armour Research Foundation under an arrangement with the committee. This group is also endeavoring to determine if any of the recently developed nontoxic inhibitors can be mixed successfully with the salt when the cars are iced.

This investigation has not disclosed an entirely satisfactory means of adding an inhibitor and work along this line will be continued, the report states. On the other hand, it continues, several nontoxic inhibitors have been examined, and two, sodium polyphos and disodium phosphate, give promise for use in this application.

Design of Tie Plates — A two-part report on this subject deals first with tie plates specially designed for use in curved track to reduce maintenance costs for periodically re-adzing ties to restore gage and cant of rail. Plates of several designs have been undergoing service tests on four roads under the research staff of the Engineering Division, A.A.R. These tests, the reports states, have shown that considerable economy can be effected by using special plates at points where gage and cant difficulties have been experienced. The report offers two plate designs for consideration for use at such locations.

The second part of the report concerns tie plate service test measurements of seven plate designs which were installed on new ties, in 1944, in tangent and curved track. Periodic measurements have been made of plate penetration into the ties, bending of the plates

*Assistant Engineer (Retired), Pennsylvania

and the gage of the track. The results to date are presented in tabular and chart form in the report, which states that several more years of traffic will be required before definite conclusions can be drawn regarding the various features of the designs being studied.

Hold-Down Fastenings — Tie Pads — In a progress report on hold-down fastenings for tie plates, including tie pads under plates and their effect on tie wear, the study of which is being made in collaboration with the Committee on Ties, the committee told of additions and alterations to the hold-down fastenings test installation on the Louisville & Nashville and discussed the 1949 inspection of this installation. The report discusses a similar series of tests on the Illinois Central, involving two plate designs and three kinds of ties, giving the results of the most recent inspection, and also a test of GEO track on the Missouri Pacific. Results of this latter test indicate that the life of ties in GEO track is not appreciably longer than in standard construction on tangent track of light or medium traffic, except that failure from mechanical wear is lessened.

Preventing Frozen Rail Joints — The committee submitted the fourth progress report on the rail joint lubrication service tests in five miles of main-line track on the Chicago, Burlington & Quincy. Several types of lubricants are being tested, each being used on both rails of a ½-mi. section. The movement within the joints, the joint bar pull-in, and the bolt tension are being measured annually, according to the report, which gives details of the most recent inspection.

In listing the conclusions reached thus far, the committee noted that none of the lubricants seems to be effecting a significant reduction in joint wear, or pull in, nor has any lubricant shown marked effectiveness in promoting uniformity of the joint gap width. It further stated that, although some of the lubricants have weathered badly, the tests will be continued for at least one more year.

Rail Anchorage — In a brief report on rail anchorage for various conditions, the committee told of the tests of anchorage on the Chicago, Milwaukee, St. Paul & Pacific, in which strain gages have been used to measure the rail creepage forces transmitted to the ties by the rail anchors. These tests have also included static tests. The data thus assembled will be analyzed and the results reported on next year.

Track Research Projects—As a part of the committee's presentation, G. M. Magee, research engineer of the A.A.R. Engineering Division, reviewed the various research projects being carried out for the committee and reported on in its several reports.

Manganese Trackwork—Also presented in connection with the report of this committee was an illustrated address on manganese steel trackwork by John A. Fellows, assistant chief metallurgist, American Brake Shoe Company, Mahwah, N. J. Mr. Fellows discussed the structure of manganese steel, outlined the effects of various chemical compositions, described the effects of different heat-treatment temperatures and of water quenching on heavy sections, and showed how fine grain size affects the physical properties. Other subjects discussed included the complexities of fatigue testing, the low notch sensitivity of manganese steel, toughness at various temperatures, work-hardening under impact, the benefits of pre-depth hardening of crossing castings, and the repair of trackwork castings by welding.

New design of solid manganese crossing on a structural steel T-beam substructure of revised design about to be installed in track—one of the illustrations accompanying the report on this subject of the Committee on Track

Committee on Impact

J. P. Walton, Chairman*

The committee submitted progress reports on five of its ten assignments, all of which, with one exception, were based on field tests conducted under its direction.

Steel Girder Spans — This report gives the results of the investigation of static and dynamic effects in a 100-ft. steel girder span and an aluminum-alloy span of the same length. The tests were made by the Aluminum Company of America and the results are included as an appendix to the report, which also includes the details of the static and moving-load tests and the conclusions drawn from the results. The report states that tests of static and dynamic effects were also made on three steel deck girder spans used by high-speed steam and Diesel locomotives, and that the results will be published in a summer bulletin.

*Engineer of Bridges and Buildings, Pennsylvania

Dynamic Shear — On its assignment on tests of dynamic shear in girder and truss spans, the committee reported progress in assembling data, tests having been made this year on two single-track through-truss spans.

Columns and Hangers — Progress was reported in assembling and analyzing data resulting from the measurement of impact and bending stresses in columns and hangers of truss spans. During 1949 these tests were made on the Texas & Pacific under the guidance of the research staff of the A.A.R.

Concrete Structures—During 1949 the committee, in collaboration with the Committee on Masonry, conducted tests on a reinforced concrete subway and a precast reinforced concrete trestle to determine the static and dynamic effects. The data are being analyzed and report will be made later.

Steel Truss Spans — Under this assignment the committee referred briefly to the stress measurements that have been made on six structures on five roads, the results of which will be published later.

Waterproofing

R. L. Mays, Chairman*

The committee submitted a progress report on one of its three assignments, namely, waterproofing protection to prevent concrete deterioration, in the preparation of which it collaborated with the committees on Masonry and Iron and Steel Structures. The report describes tests made at Purdue University of 65

*Division Engineer, New York, Chicago & St. Louis

surface coatings supplied by manufacturers. Three concrete test specimens and three control specimens were prepared for each coating tested. After curing, the test specimens were coated as directed by the manufacturers and tested by immersion, heat, freezing and thawing. According to the committee, outdoor tests will be conducted later, after which the results will be discussed.

Waterproofing Paints—As an added feature of the committee's presentation, Chairman R. L. Mays introduced K. B. Woods, associate director, Joint Highway Research Project, and professor of highway engineering, Purdue University, who presented a paper on the Use of Waterproofing Paints for Minimizing Structural Concrete Deterioration. This paper, which was prepared jointly with J. B. Blackburn and D. W. Lewis, both also of the faculty of Purdue, was based on research on the subject performed at Purdue for the A.A.R., and discussed details of the testing program and some of the results obtained in the laboratory investigation. It was pointed out that there is definite need for a material or materials, for surface application, which will reduce or minimize concrete deterioration, especially of old structures, constructed at a time when information on design, construction practices and materials was not as adequate as it is today.

Masonry

C. B. Porter, Chairman*

This committee made one final report, which was submitted for adoption, and two progress reports, presented as information. No report was made on its other five assignments.

Repairing Masonry — A report on methods of repairing masonry, including internal pressure grouting, was submitted for adoption and publication in the Manual. The report contains new material on repairing and solidifying masonry structures to replace the present material in the Manual. The new material covers preliminary work and materials, and then deals with surface repair and internal consolidation, with detailed instructions for the proper performance of each type of work.

The report of the committee was adopted.

Improving Concrete and Mortars — A progress report on methods for improving the quality of concrete and mortars was prepared in collaboration with the Committee on Buildings. It consists of a complete discussion of the influence of aggregate characteristics on the proportioning of concrete, and deals with types of aggregates; the characteristics of aggregate particles; characteristics of combined aggregate particles; and effect of aggregate on the design of mixes. A bibliography is also included.

*Assistant Chief Engineer, Chesapeake & Ohio

Specifications for Masonry Structures — In its report on specifications for the construction and maintenance of masonry structures, which was presented as information, the Committee stated that there is definite need for an explanation of the basic principles of concrete mix design for the guidance of young engineers, masonry foremen and others who do not understand the fundamentals of manufacturing good and durable concrete. With this in mind, together with the fact that the desire of these men to improve their knowledge is often subdued by the technical terms in text books and concrete manuals, the committee prepared and presented in the report a guide to the water-cement ratio method of making concrete. The guide is written in nontechnical language and the illustrations and graphs accompanying it are prepared for ready understanding. It outlines the basic principles in the proportioning of concrete and includes, in an appendix, a complete set of instructions for field men.

Getting Durable Concrete—As part of the report of this committee an address was presented by George H. Paris, railway representative of the structural bureau, Portland Cement Association. Mr. Paris emphasized that the education of the field forces in the basic principles of quality concrete is a prerequisite to the production of durable structures. He showed how this is demonstrated by a study of concrete control specimens which are part of a long-time control study of the performance of cement and concrete exposed to weathering. These specimens, he said, illustrate the benefits of entrained air, low slump, proper cement content, adequate seasoning and good aggregates.

Steel Structures

J. L. Beckel, Chairman*

The committee on Iron and Steel Structures presented progress reports, as information, on three of its nine assignments. It alo presented recommendations for certain revisions of the Manual, and as information offered other suggestions on revision.

Revision of Manual — Presented for adoption and publication in the Manual were a number of revisions of material under the heading Specifications for Steel Railway Bridges and other sections of Chapter 15. In a supplementary report, the committee recommended an extensive partial draft of Specifications for Movable Railway Bridges, which was presented as information, with the intention of resubmitting it next year for adoption.

The recommendations of the committee were approved.

*Assistant Engineer of Structures, New York Central System

Stress Distribution — A progress report on stress distribution in bridge frames, with particular regard to floorbeam hangers, summarizes the progress to date in research into the causes of and remedies for failures in floorbeam hangers. This research has included (1) a survey of failures of floorbeam hangers and the analysis of the failures; (2) a study of stress distribution in the hangers of selected bridges under service loads, both static and dynamic, and under service conditions, obtained by strain measurements in the field; and (3) a study of stress distribution, under controlled laboratory conditions, in components and models of the hangers, and of the static and fatigue strength of these components. The discussion of these elements is extensive and complete, and includes numerous graphs and tables.

Designing Metal Culverts — The committee submitted a progress report, as information, on the design of metal culverts of 60-in. diameter and larger, including corrugated metal arches. It states that the theoretical approaches to this subject have been somewhat exhausted in previous reports. The present report deals with the structural performance of existing field installations to determine if present design practice is sound or requires revision. This study is now in progress and is expected to be reported on next year. Meanwhile, pending definite recommendations in next year's report, the committee suggested certain additional specifications for use in the design of metal culverts.

Structural Bolts in Bridges—In a progress report on the use of high-strength structural bolts in steel railway bridges, the committee told of field tests of more than 1,000 such bolts of various sizes and lengths conducted by the research staff of the A.A.R. Engineering Division. The report describes the manner in which the bolts were installed and gives the preliminary results indicated by the test installations after one year. According to the report, such bolts, where properly installed, will stay tight longer than rivets subjected to similar conditions, and have a definite use in bridge maintenance.

Failures in Hangers—In a talk on Study of Fatigue Failures in Hangers of Railway Bridges, L. T. Wyly, professor of structural engineering, Purdue University, presented a report of the salient features of the investigation being conducted by the Purdue University Experiment Station, assisted by the A.A.R. research staff. The talk was illustrated by a number of slides showing details of failures, stress analyses, measured and calculated local stress concentrations at points of failure, the results of exploratory fatigue tests made to explain the failures, and the results of field measurements taken at Purdue University and the A.A.R. research office on hangers under static and dynamic loads. A working hypothesis was also offered to explain failures and to indicate the basis of preventative measures in existing structures and in new designs.

GENERAL NEWS

Roads Estimate 1950 Capital Expenditures

$869.6 million total shown in I. C. C. bureau's "Comment"

Class I railroads which have submitted estimates to the Interstate Commerce Commission's Bureau of Transport Economics and Statistics expect to make gross capital expenditures of $869,581,462 in 1950, according to the latest issue of the bureau's "Monthly Comment." Among other articles in the issue were analyses of figures on the coverage of railroad fixed charges in 1949 and on the progress of Dieselization, the latter showing that Diesel-electric locomotives handled more than one-third of last year's freight service and nearly one-half of the passenger and yard operations.

The $869.6 million which the reporting Class I roads expect to spend for capital improvements this year compares with 1949 expenditures of $1,261 million, a decrease of 31 per cent. The estimates were submitted by 128 of the 132 Class I roads, and the four roads (all in the Western district) which did not submit estimates made 1949 expenditures of $33.8 million.

The 1950 estimates by territories and the percentage reductions from the 1949 outlays are as follows: Eastern district, $286.8 million, 31.6 per cent; Pocahontas region, $62.2 million, 44.7 per cent; Southern region, $112.2 million, 45.7 per cent; Western district, $408.4 million, 21.8 per cent. The table, reproduced from the "Comment," shows the actual and estimated expenditures for the first six months of 1949 and 1950, respectively, separated between road and equipment.

The analysis of the 1949 showing as to coverage of fixed charges noted that the ratio of last year's available earnings to the charges was 2.14, a drop from the comparable 1948 figure of 2.77. The income available for the 1949 charges totaled $900.7 million as compared with 1948's $1,173 million, while the charges of the two years were $421.4 million and $423.3 million, respectively. The 1949 coverage ratios by territories ranged from 1.51 in the Eastern district to 3.32 in the Pocahontas region.

Similar data for 37 large roads (those with 1948 gross above $50 million) showed that all of them had lower coverage ratios in 1949 than 1948. Excluding the Long Island, which reported deficits in both years, the 1949 ratios ranged from 0.69 for the Grand Trunk Western to 11.79 for the Norfolk & Western. Those two roads were in the same extreme positions in 1948, but their coverage ratios were then 1.11 and 21.43, respectively. Only 15 of the 37 roads listed had 1949 coverage ratios above 3.0; in 1948, 22 of the roads had such ratios.

A Composite Result

Figures taken from last year's cumulated monthly returns of the Class I roads were presented by the bureau to point out that the $438.1 million thus shown for 1949 net income was the composite result of net incomes aggregating $467.2 million earned by 101 roads and net deficits aggregating $29.1 million incurred by 22 roads. Comparable data for the preceding 10 years indicated that the number of roads reporting net deficits ranged from 12 in 1943 to 56 in 1939. Other figures showed that the 1949 dividend appropriations of the Class I roads were 13 per cent less than in 1948 —$252.3 million as compared with $289 million. Since the net income was down 37 per cent, the ratio of dividends to net income rose to 57.6 per cent in 1949 as compared with 41.3 per cent in 1948.

The "continuing growth in the use of Diesel-electric motive power," as the bureau put it, was "clearly reflected" by the data it presented on the subject. The data compared 1949 with 1948 and 1941, showing as to 1949 freight service that Diesel-electrics produced 34.89 per cent of the gross ton-miles while coal-burning steam locomotives produced 49 per cent. In 1948, the Diesels produced 21.27 per cent while the coal-burners produced 59.46 per cent; and their respective 1941 proportions were 0.22 per cent and 79.66 per cent.

Only slight relative changes occurred in the proportion of freight traffic handled by oil-burning steam locomotives between 1941 and 1948, but the oil-burners' 1949 proportion was 3 percentage points under that of 1948—14.05 per cent as compared with 17.24 per cent. The electric locomotive's proportion has not changed materially; it was 2.34 per cent in 1941, 2.02 per cent in 1948, and 2.05 per cent in 1949.

In passenger operations, the Dieselized services accounted for 49.29 per cent of the 1949 passenger-train car-miles. This compared with 1948 and 1941 proportions of 39.55 per cent and 7.75 per cent, respectively. Meanwhile the coal-burning steam locomotive's proportion was down to 28.75 per cent in 1949, as compared with 35.98 per cent in 1948 and 63.72 per cent in 1941. The oil-burning steam locomotive's proportion was 15.49 per cent in 1949, 17.94 per cent in 1948, and 22.01 per cent in 1941. Electric locomotives handled about 6½ per cent of the passenger service in each of the three years.

Diesel Yard-Switching

The Diesel-electric's proportion of total yard switching locomotive hours was 49.94 per cent in 1949, as compared with 35.84 per cent in 1948, and 12.01 per cent in 1941. The coal-burning steam locomotive's proportions for the three years, respectively, were 42.63 per cent; 55.22 per cent; and 75.77 per cent. Here in yard service, the oil-burning steam locomotive seems to be losing ground more rapidly than in other services. Its proportion of the 1949 switching locomotive hours was down to 6.77 per cent as compared with 8.3 per cent in 1948 and 10.77 per cent in 1941. As to the electric locomotive, it performed relatively less than half as much yard service in 1949 as it did in 1941—0.6 per cent as compared with 1.37 per cent of the total.

"Conjecturally," the bureau said, "the increase in the use of Diesels, 1949 over 1948, may have been affected to some indeterminate extent by the coal situation in that some roads may have endeavored to procure higher utilization of Diesels in order to conserve coal. Also, the commission issued a service order, effective October 25, 1949, calling for a

Actual and estimated gross capital expenditures of Class I steam railways

Period	Number of roads	Road	Equipment	Total	Percentage distribution: Road	Percentage distribution: Equipment
Actual:						
1st half 1949	132	$160,227,180	$551,520,008	$711,747,188	22.5	77.5
1st half 1949*	128	153,067,584	539,988,705	693,056,289	22.1	77.9
Estimated:						
1st quarter 1950	128	55,290,807	179,360,748	234,651,555	23.6	76.4
2nd quarter 1950	128	78,404,380	161,666,369	240 070,749	32.7	67.3
1st half 1950	128	133,695,187	341,027,117	474,722,304	28.2	71.8
Percent decrease: 1st half 1950 vs. 1st half 1949	128	12.7	36.8	31.5	—	—

* Excludes figures for 4 roads which did not furnish 1950 estimates.

25 per cent reduction in passenger trains operated by coal-burning locomotives."

As to the displacement of coal, the bureau estimated that 58.4 million additional tons would have been consumed last year by the railroads if coal-burners had performed the services performed by Diesels. "For the year 1949," it added, "the average cost of coal charged to yard and train services was $5.18 per ton. If this figure is applied to the above-mentioned 58.4 million tons of coal, the cost of such fuel would amount to $302.5 million. The actual cost of Diesel fuel charged to yard and train service in 1949 by the carriers was $134.6 million."

I. C. C. Allows R. E. A. Another Rate Increase

10 per cent rise will permit higher payments to railroads

The Interstate Commerce Commission has approved the Railway Express Agency's proposal to increase its first and second class l.c.l. rates by 10 per cent and thus improve its financial position by about $30,700,000 a year. The commission's March 6 report in the proceeding, Ex Parte No. 169, was by Chairman Johnson, and the accompanying order modified outstanding commission orders and granted fourth-section relief to the extent necessary to permit publication of the authorized increases on the usual 30-day notice.

The commission followed the recommendations of a proposed report it received from two of its examiners—Samuel R. Diamondson and the late Charles W. Berry (see *Railway Age* of January 14, page 39). A dissenting opinion came from Commissioner Alldredge who said that R.E.A. had "failed to meet the burden of showing that these proposed increases . . . will accomplish its stated purpose of increasing revenues or that the rates thus increased will be just and reasonable."

This view of Mr. Alldredge's was based on his appraisal of the current situation wherein R.E.A. is confronted with the competition of parcel post service, motor carriers, and air-cargo services. "The rates maintained by these newer competitors, except possibly air-cargo carriers," he said, "are already much lower than those now in effect on express shipments and, in many cases, the lower-cost competitors have a speedier service. New criteria of what express service is worth to the shipping public have thus been introduced and they cannot safely be disregarded in judging the value-of-service element or the revenue effect of any proposed increases in express rates.

As the majority report noted, R.E.A. expects to lose some business as a result of the increases. It calculates that its annual gross revenue from the l.c.l. traffic will nevertheless be up about $1.5 million while the smaller volume will result in cost reductions amounting to about $29.2 million. These estimates are based on an annual volume of 100 million l.c.l. shipments, a drop of 5.7 million from the 1949 level.

The additional net would increase R.E.A.'s so-called "express privilege" payments to the railroads. In that connection, the commission's report had a table of estimates indicating that the payments, on an annual basis, will still fail by $97,298,000 to meet railroad costs of handling the express traffic. If allowance is made for return on investment and federal income taxes, the prospective deficiency becomes $139,950,000.

"It is self-evident that express privileges which are less than the cost to the railroads of performing the transportation are less than just and reasonable compensation," the commission's report said of this situation. It also dealt with protestant contentions to the effect that the railroads should not expect compensation for transporting express in excess of out-of-pocket costs. Of them it said:

"Those advancing that theory admit that if all traffic were handled by the railroads on such a basis they would soon be in bankruptcy. The handling of express traffic from origin to destination is an integral part of the service the agency holds itself out to perform and is a part of its transportation obligation. It is entitled to earn just and reasonable revenues for performing the service. The fact that 68 of the railroads own the agency's capital stock does not affect that right."

Aside from its desire to increase payments to the railroads, R.E.A. based its petition for the higher rates on increases in its own costs which have occurred since the latest previous adjustment in its charges. The cost increases were principally the 7 cents per hour wage increase and the 40-hour week which the Agency's employees got after those concessions had been won by railroad non-operating employees. Expressing agreement with the R.E.A. view that it could not look to increases in traffic to absorb these cost increases, and that the 100-million shipment estimate was reasonable, the commission referred to "convincing" evidence that "so long as parcel post rates are maintained at their present levels considerably below the cost of service, it may not reasonably be expected that the less-than-carload express shipments will exceed the estimated volume."

Parcel Post vs. 1st Class Express

A table in the report compared parcel-post rates with first-class express rates. It showed that, with few exceptions present express rates exceed parcel-post rates for all shipments weighing up to 70 lb., the maximum accepted in parcel post service. The increase will give the parcel post service a substantial rate advantage on all the business it handles, but there are pending in Congress proposals to increase parcel post rates and to reduce size and weight limits applicable to parcels handled in the service (see *Railway Age* of February 18, page 64).

The new basis of express charges will increase the first-class rates on 100-lb. shipments by amounts ranging from 19 cents for a 12½-mi. haul to $1.83 for a 3,900-mi. haul. For such shipments, the present and approved new rates, respectively, for various mileages are as follows: 25 mi., $1.98 and $2.18; 50 mi. $2.15 and $2.37; 75 mi. $2.31 and $2.54; 100 mi. $2.48 and $2.73; 250 mi., $3.47

Photo by Louisiana Department of Highways

TRUCKS, NOT WEATHER, CAUSED THIS DAMAGE.—A Louisiana highway engineer checks damage caused by heavy truck traffic on state route 80. As set forth in *Railway Age* of February 4, the "Pelican" state's highway department recently completed an investigation of highway damage, and reported that "Louisiana's highways are being pounded to death by inconsiderate operators of overloaded, heavy trucks"

and $3.82; 500 mi., $4.90 and $5.39; 1,000 mi., $7.10 and $7.81; 2,000 mi., $11.50 and $12.65; 3,900 mi. $18.32 and $20.15. The like percentage increases in second-class rates will be effected by adjusting them to continue their present 75-per-cent relationship to the first-class rates.

Comparisons of present and approved new charges, respectively, for 100-lb., first-class shipments from New York are as follows: To Philadelphia, Pa., $2.81 and $3.09; to Chicago or Atlanta, Ga., $6.66 and $7.33; to St. Louis, Mo., $7.32 and $8.05; to Dallas, Tex., $10.18 and $11.20; to Denver, Colo., $11.28 and $12.41; to Los Angeles, Cal., or Seattle, Wash., $15.51 and $17.06; to San Francisco, Cal., $15.84 and $17.42.

Would Revamp Federal Transportation Set-Up

Truman plans affect I.C.C., continue shifts to Commerce

President Truman on March 13 submitted to Congress 21 plans for reorganizing various federal agencies, including one which would vest in him the authority to designate the Interstate Commerce Commission's chairman while making that official responsible for the "internal administration" of the commission. Another plan would provide for the appointment of a new undersecretary of commerce for transportation and create in the Department of Commerce a set-up designed to take over all government's activities in the transport field except regulation.

In that connection, the present group of plans proposes to abolish the United States Maritime Commission and divide its functions between two new Commerce-Department agencies—a Federal Maritime Board and a Maritime Administration. The President's general message covering all the plans said they were designed to "put into effect specific recommendations" or to "apply principles" set forth in reports of the (Hoover) Commission on Organization of the Executive Branch of the Government. The plans were submitted to Congress under authority granted to the President in the Reorganization Act of 1949; and each will become effective in 60 days unless the House or Senate passes a resolution disapproving it.

The plan relating to the I.C.C. chairmanship is one of seven like proposals, the others applying to such agencies as the Civil Aeronautics Board, Federal Power Commission, and Federal Communications Commission. Neither the National Mediation Board nor Railroad Retirement Board is involved. The I.C.C. is on record in opposition to a "strengthening" of its chairmanship as contemplated by the Hoover-Commission recommendation. The opposition was registered in the commission's annual report to Congress which also defended the present commission plan of annually rotating the chairmanship among its members (see *Railway Age*, January 21, page 33).

Would Make Chairman Responsible

His plans, President Truman told Congress, "are designed to strengthen the internal administration" of the involved commissions "by making the chairman, rather than the commission or board as a whole, responsible for day-to-day administration." As the commissions have developed, the President said, each of them "has become, in addition to a deliberative body, an organization of staff elements whose work must be programmed and whose members must be recruited, supervised, and led." Under his plans, the chairman of each commission will have "responsibility for appointment and supervision of personnel employed by the commission, for distribution of business among such personnel and among administrative units of the commission, and for the use and expenditure of funds."

The Presidential message went on to explain, however, that the chairman "will be bound by the general policies established by the commission and by its regulatory decisions." In addition, "the right is specifically reserved to the commission to revise budget estimates and determine the distribution of funds among the major purposes and programs of the agency." Also, the appointment of the heads of "major administrative units" would be subject to commission approval; and each commissioner would retain responsibility "for actions affecting personnel employed regularly and full time in his immediate office."

"The proposals contained in these reorganizations are not new," the President continued. "Several of the commissions have already made considerable progress in placing administrative responsibility in their chairmen . . . The fact that under these reorganization plans the commissions retain all substantative responsibilities deserves special emphasis. The plans only eliminate multiheaded supervision of internal administrative functioning. . . .

"The plans do not contemplate that the chairman will be relieved of any of his duties as a member and presiding officer of the commission. They simply place on him the additional responsibilities for the operations of the staff. The chairman will need to establish the necessary administrative arrangements to carry out these responsibilities."

Called "Long Step Forward"

Indicating that his ultimate objective is to gather into the Department of Commerce all the government's nonregulatory activities in the transport field, the President said in his general message that the transfer to that department of the Maritime Commission's functions "will mark a long step forward in the integration of the many government programs affecting transportation." The proposed new undersecretary of commerce for transportation would "assist the secretary in the direction and coordination of the transportation activities now centered in the department," the President explained.

"For more than a decade," he added, "the department has been in the process of becoming the major transportation agency of the government. The establishment of the Civil Aeronautics Administration within the department was the first major move in this direction. The transfer of the Weather Bureau to the department was based in large part on that bureau's importance to transportation. One of the reorganization plans which I transmitted to the Congress last year transferred the Bureau of Public Roads to the department. Now, with the addition of the functions of the Maritime Commission, the department will have jurisdiction over the major portion of the operating aspects of the programs of the government relating to air, highway, and water transportation, as well as over the development and coordination of policies affecting the nation's transportation system as a whole."

Additional Proposals Later

In addition to the actions taken by the President, the Hoover Commission also recommended transfer to the Commerce Department of such I.C.C. functions as those relating to equipment inspection, safety, and car service. While the Presidential messages explaining the plans now proposed made no reference to these other transport recommendations, the general message said that Mr. Truman expected "to transmit additional plans for putting into effect other recommendations of the (Hoover) Commission later in the present session of Congress."

And in the message relating specifically to the transfer of Maritime Commission functions, the President said that it was his "purpose to look to the secretary of commerce for leadership with respect to transportation problems and for the development of over all transportation policy within the executive branch." It was to Secretary of Commerce Sawyer that Mr. Truman turned last year for a report on transportation (see *Railway Age*, December 17, 1949, page 51).

The split of the Maritime Commission's functions between the proposed new Federal Maritime Board and Maritime Administration would assign to the former all the commission's activities relating to regulation and grants of subsidies to water carriers. The Maritime Administration would get the commission's other functions, including the carrying out of the subsidy agreements and the administration of various ship-operating programs.

The board would consist of four members appointed by the President with the advice and consent of the Senate for overlapping terms of four years. The chairman of the board would be designated by the President; and he would

also be, ex officio, the maritime administrator and, as such, the head of the Maritime Administration. The plan also provides for a deputy maritime administrator appointed by the secretary of commerce under the classified civil service. The plan "guarantees" the independence of the board in the performance of its regulatory functions, but it would be subject to "general policy guidance by the secretary of commerce" in the performance of its subsidy functions, the President said.

Beard Tells What Shippers Want of RRs

Urges simple tariffs, faster service, more special equipment

"Both you and we have a lot of hard work to do and some difficult problems to solve. Let's continue to work hard at them and let's make a real effort to solve our problems without depending on some governmental agency or bureau to be umpire. That is one way in which we jointly can help to preserve American free enterprise."

With that appeal for joint shipper-railroad cooperation, C. H. Beard, general traffic manager of the Union Carbide & Carbon Corp., concluded an address on "Some Problems of Our Railroads' Customers" at the annual meeting of the New England Railroad Club in Boston, Mass., on March 14.

Emphasizing that his remarks were "a statement of problems" rather than "complaints," Mr. Beard, after outlining the purpose and importance of industrial traffic departments, discussed tariffs, service, equipment and rate adjustments, giving only passing mention to "loss and damage claims, rough and careless handling of freight and other such matters."

Slow Service Loses Traffic

"We don't want to be harsh with the railroads, but let's not kid ourselves, or the public," he said, in pointing out that "much traffic has gotten away from the railroads because the motor carriers can and do give better service. Today, with the trend toward lower inventories, service takes equal standing with rates in the transportation of many products."

Much l.c.l. traffic "is finding its way to the highways," he stated, because of what "seems to be a general feeling in the railroad industry, right down to the labor that handles the shipments, that you are losing money on l.c.l. traffic, so why pay any attention to it?"

Admitting that "many shippers are in agreement with the carriers that much l.c.l. traffic does not pay its full share of the total transportation burden," he added that "what l.c.l. traffic you do handle helps to keep down the costs of handling other traffic, and thereby is beneficial . . . I have seen statistics that clearly indicate that if all the so-called unprofitable l.c.l. traffic were taken off the railroads, their overall profits would be less or their losses would be greater, in spite of the known savings in costs of not handling such traffic."

Cars "Vacation" in Terminals

"It is sad to relate that service on carload traffic is relatively as poor," he continued, citing instances in which cars, not bad order, and routed over a single railroad, took 11 days to move from West Virginia to Illinois; and another in which it required 12 days to get a car to Boston from Buffalo, N. Y. That car, he said, with actual running time of about 15 hr., "had a real vacation in several terminals en route."

"Where do we lose the time?" he asked. When "it's true that the railroads did move more freight cars in each train, and that the average speed between terminals was higher than in any other year, what happened in the terminals? Such delays must be costly to the railroads as well as to their customers."

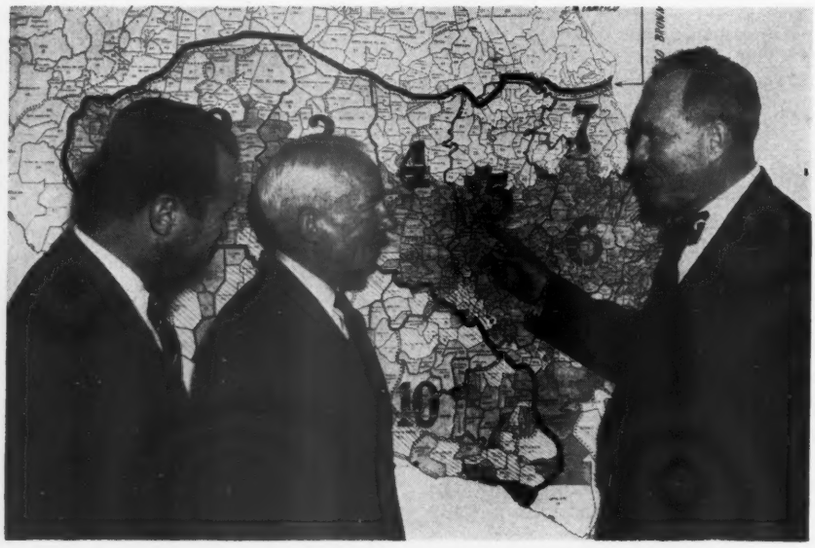
"Another subject that has troubled shippers generally is the equipment situation. . . . Like the railroads, your customers have been endeavoring to find ways and means of reducing their costs. Much attention has been given to materials handling costs. Many more products are moving today in bulk. . . . This frequently necessitates use of different types of equipment than previously used, such as container cars, covered hopper cars and better grades of box cars.

"Generally, I believe it is the belief of your customers, in spite of tradition, that much of such equipment should be furnished by the railroads, rather than the customer. You are in the transportation business, while we are in other business, and when we have to invest in transportation equipment, we have that much less to invest in our own businesses. If that money were invested in our own businesses it might well produce additional traffic for the railroads. The fact that motor carriers furnish tank trucks for highway transportation of bulk liquids, whereas the rail shipper of such liquid products furnishes his own tank cars, is resulting in losses of some business to the railroads."

Tariff Complexities, Rate Adjustments

While, "unfortunately for the shipping public, the tariffs of the motor carriers are in just as bad a shape, or worse in some instances," than railroad tariffs, the complexity of the latter was another shipper problem mentioned by Mr. Beard.

"The publication of [recent] increases in tariffs, particularly as they apply to those products that were given maximum increases in amounts per 100 lb. or per ton, have further complicated the tariff problem. . . . We estimate that because of the complicated tariff situation today, as compared to say 10 years ago, the efficiency of the average experienced rate clerk has dropped from 40 to 50 per cent, and I believe that is also true of railroad rate men."



Robert R. Young, chairman of the boart of the Chesapeake & Ohio, has offered to sell to the Mexican government 69 of the C. & O.'s open-section sleeping cars, to be used in all parts of Mexico to encourage tourist travel. As reported in *Railway Age* of February 4, Mr. Young recently made a three-week inspection tour of Mexico's federalized railway system on the invitation of Miguel Aleman, Mexico's president. The Mexican railways, he said on conclusion of his trip, could pull themselves out of their present financial difficulties if they could improve themselves to handle all freight offered and increase tourist passenger business. In the picture above Mr. Young is shown (center) with Lic. Oscar Flores (left), director of the Mexico-U. S. Commission for the Eradication of Foot-and-Mouth Disease, and (right) Gen. Harry H. Johnson, co-director, discussing the effect of the campaign on rail shipment of cattle in both countries

As to rate adjustments "to reach new markets, meet competition, establish new products . . . many of your customers feel that the present system is too cumbersome and slow. . . . However, your customers agree that under the agreements you have filed in connection with the Reed-Bulwinkle Act, or Section 5a of the Interstate Commerce Act, you are making progress and are going to make further progress."

"I believe it is better," he added, "for both you and your customers when we work out our differences between us rather than have some governmental body or agency act as referee. That has been our policy for many years and it has worked for the benefit of all concerned."

Mr. Beard "did not presume to get into the argument" about comparative regulation or subsidization of different agencies of transportation. He did say, however, that "your customers feel that you, your competitors, and for that matter, industry generally is already over-regulated, so we trust you will do everything humanly possible to avoid subsidies for railroads while you carry on your campaign. Don't let anything turn your head! In this, I'm confident, you will receive wholehearted support from your customers.

"There are many organizations," he added, "now surveying our national transportation policy, or endeavoring to determine if we really have a sound national transportation policy. . . . Probably what we need more than anything else is an inquiry or investigation, the sole purpose of which would be to determine what laws now exist that can well be completely taken off the statute books. Nothing else—just what laws are we now operating under that we can do without."

E. K. Bloss, mechanical superintendent of the Boston & Maine and Maine Central, presided at the meeting in the absence of President E. E. Oviatt, chief engineer of the New York, New Haven & Hartford. H. M. Rainie, B. & M. purchasing agent and chairman of the club's speakers' committee, introduced Mr. Beard, while H. F. McCarthy, vice-president, traffic, of the New Haven, acknowledged the latter's remarks for the club.

"A MUTUAL UNDERTAKING"

Fellow Employees:

As many of you know, our railroad is now offering to shippers of merchandise or less-carload freight a faster and greatly improved service, designed to meet the needs of every business man, large or small, who has package freight to move.

This new service, which many of you are helping to produce, is a real job of which we can all be proud, and it should do much to get back on our railroad the package freight we have lost to the trucks. Fast schedules, door pick-up and delivery, careful handling, new features—this service has what it takes to challenge the trucks, despite their subsidies. And it is a challenge to us to get all of this business we can for the railroad, helping ourselves as well as the company. Every pound of package freight we can get back from the trucks, as well as new business, not only means more income from merchandise service, but when shippers get a good job on l.c.l. they are likely to give us their carload business also, and this means more all around.

We know that every man who handles merchandise freight, whether he is on a station platform, on the trains, in the yards, or in the office, will give his best to the "blue tag" cars. Fast, efficient service is essential to meet competition as this merchandise is for immediate sale and use. All of us, however, have a stake in this business. Only half as much merchandise moves on our rails today as did in 1946. If we all get our shoulders to the wheel and do our part, we can get this business back, and more, and it would mean much not only to our railroad, but to all of us who derive our livelihood from its service. Merchandise freight requires more men per ton of handling than other freight traffic, so there are additional job opportunities as well.

Why not tell your neighborhood store people, your business friends, and other prospects with whom you come in contact, how well prepared your railroad is to serve them on their package shipments? They will be glad to know about it for their own advantage. Our freight traffic representatives will give full details and help in every way.

Our work on the railroad is a mutual undertaking. What helps one helps the other. You know something of the difficult problems the company faces, particularly in meeting heavy truck and other subsidized competition and in securing the revenues which support us all. Here is a real opportunity to sell a fine service and we are confident that everyone will contribute his full share no matter how small or large.

Fred Carpi J. M. Symes

—A pay check enclosure distributed on February 27 to employees of the Pennsylvania, in connection with that company's new "Keystone" service for l.c.l. freight described in the **Railway Age** of February 25, page 53.

Railroads Win Second Bulwinkle-Act Case

Justice Dept. loses again as I.C.C. approves per diem pact

Approval by the Interstate Commerce Commission of the Bulwinkle-Act agreement filed by railroad parties to the car hire, demurrage and storage rules which are administered through the Association of American Railroads marked a second set-back for the Department of Justice in its undertaking to have the commission condemn such pacts as formulated by the railroads. As noted briefly in the *Railway Age* of March 11, page 114, the favorable report by the commission's Division 2 found that the proposed agreement should be approved, with relatively minor modifications, because it meets the requirements of the Bulwinkle Act, which is now section 5a of the Interstate Commerce Act, and because it is "necessary to the effectuation of . . . the national transportation policy."

Under provisions of section 5a, which was enacted over President Truman's veto, carriers obtain immunity from the anti-trust laws in connection with joint agreements if such agreements are approved by the commission, and if they relate to "rates, fares, classifications, divisions (including charges between carriers and compensation paid or received for the use of facilities and equipment), or rules and regulations pertaining thereto, or procedures for the joint consideration, initiation or establishment thereof." The Department of Justice was the lone protestant to the railroads' application in the present case, which was docketed as Section 5a Application No. 7.

The commission rejected the protest, just as it had previously rejected a like Justice-Department protest in making its first determination with respect to a Bulwinkle-Act agreement. That first determination was embodied in the commission's report approving the agreement entered by western railroads as members of the Western Traffic Association (see *Railway Age* of October 8, 1949, page 68).

As Division 2's report summarized the department's position in the present case, it "seems to admit that the subject matters of the proposed agreement require joint handling, and implies that it would have no opposition to the instant agreement if it had been proposed by the applicants themselves without reference to the A.A.R." As to the latter, the railroads' application explained that, while the proposed procedures are designed to operate "within the framework" of the A.A.R., the only organization to which the agreement relates, "if it be properly denominated as an organization," consists of the railroad subscribers to the rules involved, the A.A.R. board of directors, and the General Committee of the A.A.R.'s Operating-Transportation Division. Moreover, the proposed procedures were further described as being "substantially similar" to those observed in the past.

"The department's argument," the commission said, "ignores the fact that it is the applicant railroads who are parties to the proposed agreement and not A.A.R.; that while, for convenience, applicants propose to use the A.A.R. board

of directors and general transportation committee as their agents for studying and making recommendations concerning the subject matters covered by the agreement, neither the recommendations of the board nor of the general committee are self-executing but can be put into effect only by vote or implicit assent of subscribers owning a majority of the revenue freight cars owned by all subscribers.

"The argument also ignores the further fact that the agreement accords to each subscriber the free and unrestrained right to take independent action either before or after any determination arrived at through the procedure provided for in the agreement. The fact, as pointed out by the department, that it would be impractical and burdensome for an individual subscriber to take advantage of this right because the subject matters of the agreement necessarily require uniform and joint handling, can not be attributed to the agreement but is the result of other carriers also exercising their individual rights.

"The same observation also applies to the department's criticisms of provisions of the agreement limiting subscriber proposals thereunder independently of the board and general committee to those made by subscribers owning not less than 20 per cent of the revenue freight cars owned by all subscribers, rather than to individual subscribers. If the agreement is to accomplish its purpose by facilitating joint handling of the subject matters thereof, it must be workable. There is nothing therein which prohibits individual carriers from making their views known to the board or the general committee on any question. As a practical matter, it is mostly through individual suggestions that the board and general committee would normally operate."

Previously, the report had disposed of

(*Continued on page* 98)

Senate Group's Transport Hearings Begin March 30

The subcommittee on domestic land and water transportation of the Senate committee on interstate and foreign commerce will begin public hearings March 30 at Washington, D. C., in connection with its study of domestic land and water transportation. This was announced last week by the subcommittee's chairman, Senator Myers, Democrat of Pennsylvania, who also said that the hearing schedule contemplates that presentations with respect to railroads will be the first received.

Next, in turn, will come presentations with respect to motor carriers, water carriers, and pipelines. The announcement said that persons who wish to appear should advise the subcommittee's staff director, E. R. Jelsma, Room 138, Senate Office Building, Washington. The hearings are expected to extend over a period of about six weeks, with sessions on two days (Tuesday and Thursday) of each week.

Members of the subcommittee, in addition to Chairman Myers, are Senator Johnson, Democrat of Colorado, who is chairman of the parent committee, and Senators Johnson, Democrat of Texas, Bricker of Ohio, and Capehart of Indiana, Republicans. The study is being conducted pursuant to Senate resolution 50, adopted last year.

"These hearings," Chairman Myers also said, "have been scheduled to give all interested parties an opportunity to present to the subcommittee such information as they deem pertinent to fully advise the subcommittee of the current problems affecting our national system of transportation . . . The subcommittee staff has been engaged during the past several months in gathering factual information relating to all types of transportation and it is hoped that these hearings, plus the information developed by the staff, will highlight the major problems and complexities existing in our domestic transportation so that at a later date the subcommittee can recommend legislation based upon accumulated facts and testimony."

Unions Say RR Workers Worse Off Than Industrial Men

That the living standards of railroad employees have not kept pace with those of the workers in other industries appears to have been the chief "theme song" of the unions' presentation during the third week of hearings before a Presidential fact-finding board in Chicago. Counsel for the Brotherhood of Railroad Trainmen and the Order of Railway Conductors, whose demands for a 40-hr. week in yard service and numerous important rules changes gave rise to the emergency board hearings, dwelt largely on individual comparisons of the hourly, in contrast with the weekly, earnings of railroad employees and of other classes of workers, including coal miners. Henry P. Melnikow, economic consultant for the two unions, told the board that "since 1917 when the 8-hr. day on the railroads was finally instituted there has been absolutely no reduction in hours for the operating employees in the railroad industry."

New Harrisburg-Erie Sleeper Service Announced by P.R.R.

Inauguration on March 13 of a new sleeping car service between Erie, Pa., and Harrisburg has been announced by the Pennsylvania. The new service is being operated daily except Saturdays, southward, on train 580, the "Southern Express," leaving Erie at 6 p.m. and arriving in Harrisburg at 4:42 a.m., and northward leaving Harrisburg at 11 p.m. on train 581, the "Northern Express," and arriving in Erie at 9:30 a.m.

Transport Problems to Be Discussed at Kent Forum

Foreign trade and transportation problems will be considered at the first annual forum of Kent State University, Kent, Ohio, on April 8, with the following program arranged for transportation matters:

MORNING SESSION—10 A. M.

AIR CARGO: ITS STATUS AND ITS PROSPECTS: *Presiding*—Frank H. Mossman, assistant professor, marketing and merchandising, Western Reserve University; *Speaker*—Stanley E. Russ, manager of cargo sales, Trans World Airline.

RAILROAD LABOR: ITS INFLUENCES AND ITS PROBLEMS: *Presiding*—Dr. Donald E. Anthony, head, department of business administration, Kent State University; *Speakers*—For the railroads, M. G. McInnes, assistant vice-president, Erie; for railroad labor, either W. P. Kennedy, president, or Byrl A. Whitney, director of educational and research bureau, Brotherhood of Railroad Trainmen.

LUNCHEON MEETING—12:30 P. M.

COORDINATION OF OUR TRANSPORTATION AGENCIES: *Presiding*—Dr. Sidney L. Miller, head, department of transportation, University of Pittsburgh; *Speaker*—E. R. Jelsma, staff director, subcommittee on domestic land and water transportation, U. S. Senate committee on interstate and foreign commerce.

AFTERNOON SESSION—2 P. M.

COST OF HIGHWAYS: DO COMMERCIAL USERS OF HIGHWAYS PAY THEIR FAIR SHARE? *Presiding*—Dr. L. L. Waters, associate professor of business, University of Indiana; *Speakers*—For the railroads, Gen. Lacey W. Morrow, executive director, competitive transportation research, Association of American Railroads; for the motor carriers, William A. Bresnahan, director, department of research, American Trucking Associations; for the public, T. J. Kauer, director, department of highways, state of Ohio.

The forum is under the general supervision of the following Kent State faculty members: Dr. C. C. Kochenderfer, head, department of commerce; Clifford T. Hancock, instructor in commerce, and Newton Morton, lecturer in traffic management. The registration fee, including luncheon, is $5.

Import Freight "Originated" By Railroad Serving Port

The United States Supreme Court has held that issuance of a through bill of lading from point of entry to final destination within this country makes the issuing carrier liable under the so-called Carmack amendment to the Interstate Commerce Act, even though the shipment being transported originated in a non-adjacent foreign country. In a decision that reversed the Court of Appeals for the Fifth Circuit, the high court held that when the ocean bill of lading terminates at the port and a new "domestic" bill of lading is issued, the carriage has been separated into "distinct portions" with the obligation of the domestic carrier originating at that point. The Supreme Court's 6-1 decision, with Justice Frankfurter dissenting, was handed down March 13 in the case of *Rudolph Reider v. Guy A. Thompson, Trustee, Missouri Pacific Railroad Company.*

Both the district court and the appeals court had decided in this case that the Carmack amendment did not apply. That amendment says that common carriers accepting property for transportation in interstate commerce or from an adjacent foreign country shall be liable for any loss, damage or injury to the property. The present case involved a shipment of wool and skins that originated in Argentina, moved by ocean vessel to New Orleans, La., and thence by rail to Boston, Mass. Claiming the goods were in sound condition when received at New Orleans,

but that they were damaged upon delivery at Boston. Mr. Reider sued the M.P. for damages. The lower courts dismissed the complaint on the ground that it did not state a claim upon which relief could be granted. According to the Supreme Court, the appeals court characterized the railroad bill as "a 'supplemental bill of lading' issued by the domestic carrier to cover its portion of the transportation and delivery of a 'through foreign shipment,' and held that the Carmack amendment was not intended to apply to such a foreign shipment."

Reversing this view, the Supreme Court then said "the contract for ocean transportation terminated at New Orleans," and added that the shipment "could not have moved an inch beyond New Orleans under the ocean bill." The parties dealing with this shipment separated the carriage into distinct parts by their contracts with the carriers, the court said, making the M.P. "the receiving carrier squarely within the wording and meaning of the Carmack amendment." To hold otherwise, it added, "would immunize from the beneficial provisions of the amendment all shipments originating in a foreign country when reshipped via the very transportation chain with which the amendment was most concerned."

Tractor Relay System Speeds New Through Truck Service

By changing to fresh tractor units at relay points enroute, Spector Motor Service of Chicago recently established a second morning delivery service between Milwaukee, Wis., and cities on the Atlantic seaboard.

Said to be the first direct seaboard service for Milwaukee truck shippers, each trailer is hauled through to destination by three separate tractors, successively changed at two relay stations enroute.

How I.C.C. Thinks It Can Use Staff Under Administrative Act

The Interstate Commerce Commission does not think that provisions of the Administrative Procedure Act, which require a separation of functions between employees who hear cases and those who investigate and prosecute such cases, preclude it from assigning those separate roles to employees from the staff of the same commission bureau, provided the assignments go to different persons or are not otherwise overlapping. The commission expressed its view in a supplemental report, dated February 6, in the No. MC-C-907 proceeding.

The case involved a determination by the commission's Division 5 that Midwest Transfer Company and Emery Transportation Company, holders of contract-trucker permits, had unlawfully converted their operations into common-carrier services. The commission had before it the truckers' joint petition for reconsideration of the division's findings. It denied the petition and affirmed the division's report.

In doing so, it rejected a contention of the truckers that the reconsideration plea should have been granted because the division, among other alleged errors, failed to follow the separation-of-functions provisions of the Administrative Procedure Act. The truckers noted that the investigation of their operations was conducted by the commission's Bureau of Motor Carriers, and that examiners of that bureau prepared a proposed report and submitted it to Division 5. Thus, the argument ran, the Bureau of Motor Carriers "both investigated and advised in the decision on the issues."

The commission's answer was that nothing in the Administrative Procedure Act "remotely suggests" that its practice of using members of its staff, "including examiners in the Bureau of Motor Carriers," is in "any manner objectionable," provided advice and assistance is not supplied by an employee engaged in investigation or prosecution of the matter under consideration. The commission then added:

"In this proceeding, a draft of a report containing suggested findings of fact and conclusions thereon was prepared by certain examiners regularly assigned to the Bureau of Motor Carriers, and the draft was submitted to Division 5 for its assistance in reaching its conclusion. The important distinction, however, is that no examiner or other employee who participated in the preparation of the suggested draft was, or is, in any manner engaged in the investigation or prosecution of this or a factually related case. In the circumstances, the procedure followed cannot be said to violate either the letter or the spirit of section 5(c) [of the Administrative Procedure Act] and respondents' allegations to that effect are without merit."

Meanwhile, there has been considerable interest around the commission in a February 20 decision of the United States Supreme Court which invalidated a deportation order after finding that procedures leading to the order did not conform to separation-of-functions requirements of the Administrative Procedure Act. The case was docketed in the Supreme Court as No. 154, Wong Yang Sung v. J. Howard McGrath, attorney general of the United States, and Watson B. Miller, United States commissioner of immigration and naturalization. The hearing involved in the case was held before an immigration inspector whose recommendation of deportation was approved by the acting commissioner and affirmed by the Board of Immigration Appeals.

In determining that the immigration service was subject to the Administrative Procedure Act, and that such use of a member of the staff of inspectors as a hearing officer was prohibited, the court said in part:

"But the inspector's duties include investigation of like cases; and while he is today hearing cases investigated by a colleague, tomorrow his investigation of a case may be heard before the inspector whose case he passes on today . . . The Administrative Procedure Act did not go so far as to require a complete separation of investigating and prosecutive functions from adjudicating functions. But that the safeguards it did set up were intended to ameliorate the evils from the commingling of functions as exemplified here is beyond doubt."

January Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for January, with comparative figures for January, 1949. The compilation, which is subject to revision, follows:

Item	Month of January 1950	1949
Number of train accidents*	756	918
Number of accidents resulting in casualties	35	46
Number of casualties in train, train-service and nontrain accidents:		
Trespassers:		
Killed	75	74
Injured	60	67
Passengers on trains:		
(a) In train accidents*		
Killed	—	—
Injured	40	99
(b) In train-service accidents		
Killed	1	3
Injured	210	182
Travelers not on trains:		
Killed	1	—
Injured	77	58
Employees on duty:		
Killed	29	37
Injured	1,656	2,337
All other nontrespassers:**		
Killed	144	142
Injured	500	672
Total—All classes of persons:		
Killed	250	256
Injured	2,543	3,415

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $250 to railway property in 1948. Beginning January 1, 1949, this minimum was raised to $275. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:		
Killed	129	135
Injured	360	454

Canadian Roads Ask 3.4 Per Cent Freight-Rate Increase

On March 10, the Railway Association of Canada — representing the Canadian Pacific, the Canadian National and some 15 smaller companies — applied to the Board of Transport Commissioners at Ottawa, Ont., for a general freight-rate increase of 3.4 per cent, which, if granted, would increase railroad gross revenues by about $11 million per year.

The effect of this application, if granted in full, would be to give the railroads the full 20 per cent rate increase for which they originally asked in 1948. As previously reported in *Railway Age*, they were given an interim increase of 8 per cent in September, 1949, and another increase of 7.4 per cent on March 1 of this year, after the Transport Board reconsidered the case in the light of a ruling obtained by the Canadian Pacific from the Supreme Court of Canada last December. The two increases together amount to a 16 per cent increase

over rates in effect prior to last September.

Rates authorized on March 1, which are expected to produce additional gross revenues of some $26 million a year, will go into effect on March 23. Any increases granted as a result of the March 10 application would be in addition to those rates.

The railways' action came while most of the provinces which had opposed the earlier increases were considering an appeal to the Cabinet for downward revision of the March 1 award; and after one such province — Saskatchewan — had actually decided to file such an appeal. The railroads, in turn, to keep open an avenue of appeal to the Supreme Court, asked the board to extend the normal time within which such an appeal might be entered.

C. & E. I. Forms Diesel School

Instruction on care and maintenance of Diesel locomotives is now available to mechanics, engine crews and supervisors of the Chicago & Eastern Illinois at Oaklawn shops, Danville, Ill. In addition to bi-monthly meetings a full time instructor from the Electro-Motive division of General Motor's La Grange plant is on duty. Instruction equipment includes sound motion picture and slide-film projectors, and a library of Diesel literature. Safety rule changes brought about by use of Diesel power and case histories of Diesel failures form an important part of the instructional material.

Eastern Roads to File Reduced Rates on Iron and Steel

Some 29 Eastern railroads are preparing to file with the Interstate Commerce Commission on or about April 1 reduced truck-competitive rates on heavy iron and steel products.

The proposed reductions average about 25 per cent below present rates, but for shorter hauls will run as high as 33 1/3 per cent; most of them will cover hauls of up to 600 mi., but some reductions are proposed for hauls of up to 1,000 mi. To maintain present revenue per car at about the current level, the reductions will be based on a minimum carload weight of 80,000 lb., or double the 40,000-lb. minimum now generally in effect. The new tariffs will be filed to become effective on 30 days' notice, i. e., about May 1.

Among the products included in the reductions are reinforcement bars; wrought pipe not in coils 6 in. or less in diameter; pipe fittings; corrugated, galvanized, leaded and plain sheets; iron or steel strip; tinplate; and boiler tubes and tubing, seamless welded and in the rough 6 in. or less in diameter.

Representatives of steel producers and consumers, meeting with railroad traffic representatives at Pittsburgh, Pa., last week, were reported to be in "98 per cent agreement" on the new rates, suggesting only a slight additional reduction to cover the added cost of protective covering for certain steel products when carried in open cars.

The proposed changes, according to John J. Fitzpatrick, chairman of the Traffic Executive Association—Eastern Railroads, are the result of several months' study by traffic executives of eastern railroads of a plan fitted to the needs of consumers in eastern territory. A number of railroads operating in Illinois are studying similar action.

N. & W. Buys 30 Steam Switchers from C. & O.

The Norfolk & Western has purchased 30 steam switching locomotives of the 0-8-0 type from the Chesapeake & Ohio at an approximate cost of $20,000 each. The locomotives were ordered by the C. & O. in December, 1947 (see *Railway Age* of January 3, 1948, page 67), and built by the Baldwin Locomotive Works in 1948. Transfer to the N. & W. will be completed shortly.

T. P. & W. Operations Now Dieselized

The Toledo, Peoria & Western has been added to the growing list of roads which have achieved 100 per cent Diesel operation. Eleven Diesel locomotives, including two Electro-Motive F-3 "A" units, seven Alco-G.E. road-switchers, and two Lima-Hamilton switchers replace 16 steam locomotives formerly operated on the property.

Work has already begun on removal of coal and water facilities no longer necessary under Diesel operation, although five steam locomotives currently remain on hand in dead storage. The management hopes to find a buyer who can operate these locomotives, rather than dispose of them for scrap as was done with the remainder of the displaced steam power. Through service is being handled by the Electro-Motive units, and pairs of Alco road-switchers operated in multiple. Other services are handled by the road-switchers singly or in pairs as conditions warrant.

The T. P. & W.'s Diesel program began in December 1947.

Greenville to Repair 300 B. & L. E. Triple Hoppers

The Greenville Steel Car Company has announced receipt of an order to repair 300 of the Bessemer & Lake Erie's triple hopper cars. New bodies will be required for almost all the cars. The work is scheduled to begin late in April at a daily rate of 10 to 15 cars.

Freight Car Loadings

Loadings of revenue freight in the week ended March 11, during which the coal strike ended, totaled 707,962 cars, the Association of American Railroads announced on March 16. This was an increase of 133,567 cars, or 23.3 per cent, above the previous week, a drop of 1,364 cars, or 0.2 per cent, under the corresponding week last year, and a decline of 88,524 cars, or 11.1 per cent, below the equivalent 1948 week.

Loadings of revenue freight for the week ended March 4 totaled 574,395 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, March 4

District	1950	1949	1948
Eastern	106,785	132,686	154,474
Allegheny	108,922	147,598	170,933
Pocahontas	22,498	54,948	69,514
Southern	113,459	124,341	136,718
Northwestern	68 680	78,310	78,365
Central Western	98,787	111,704	118,078
Southwestern	55,264	55,965	63,902
Tot. West. Districts	222,731	245,979	260,345
Total All Roads	574,395	705,552	791,984
Commodities:			
Grain and grain products	42,064	46,717	33,264
Livestock	7,675	8,377	10,053
Coal	58,183	138,434	190,054
Coke	8,205	15,630	14,523
Forest products	38,868	36,933	42,900
Ore	8,858	14,185	13,494
Merchandise l.c.l.	83,027	96,484	115,626
Miscellaneous	327,515	348,792	372,070
March 4	574,395	705,552	791,984
February 25	546,791	688,128	790,910
February 18	560,116	697,335	804,937
February 11	568 841	699,442	733,870
February 4	612,524	682,143	746,936
Cumulative total 9 weeks	5,255,997	6,317,111	7,005,239

In Canada.—Carloadings for the week ended March 4 totaled 71,552 cars, compared with 70,020 cars for the previous week, and 72,671 cars, for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
March 4, 1950	71,552	28,497
March 5, 1949	72,671	32,768
Cumulative totals for Canada:		
March 4, 1950	600,393	251,774
March 5, 1949	650,064	288,319

New Company Will Lease Modern-Equipped Box Cars

The General American-Evans Company, Chicago, jointly owned subsidiary of the General American Transportation Corporation (90 per cent) and Evans Products Company (10 per cent) has been organized to lease to railroads or private car owners, or both, an improved modern box car designed to eliminate damage to lading in shipments as well as the need for dunnage required in ordinary methods of blocking and securing loads for safe movement by rail.

The cars will be equipped with Duryea underframe, the Evans DF-Loading device and trucks of Chrysler design built by the Symington-Gould Corporation. Floors will be made of steel and the sides strengthened; the reinforced floors, in conjunction with 8 ft. wide side doors, making possible more effective use of power lift trucks in loading and unloading goods.

It is anticipated the new car will cost about $9,000, compared with $5,000 to $6,000 for a conventional box car. To encourage use of the new cars, General American-Evans proposes to lease them to the railroads at a rental of about $125 a month or $4 a day. Improvement in railway service and reduction in operat-

ing cost and damage claims as a result of using this type of car are expected to justify a charge for the use of off-line cars on a mileage basis sufficient to cover the leasing cost.

"Crescent" Now All Streamlined

The New York-New Orleans, La., "Crescent" has been completely streamlined, it was announced this week. The train is operated by the Southern System, the Louisville & Nashville and the West Point Route via Washington, D. C., Atlanta, Ga., and Montgomery, Ala. North of Washington it operates over the Pennsylvania. Between New York and Atlanta the "Crescent" is an all-Pullman train, with all-room equipment, and south of Atlanta it also offers streamlined coach service.

Rejects Bulwinkle-Act Pact Filed by Independent Movers

Because the proposed joint-action agreement did not contain provisions specifically according to each party "free and unrestrained right to take independent action either before or after any determination," Division 2 of the Interstate Commerce Commission has dismissed a Bulwinkle-Act application filed by members of the Independent Movers' & Warehousemen's Association. Dismissal was "without prejudice" to filing of a new agreement in conformity with views expressed in the division's report.

Under provisions of the Bulwinkle Act, which is now section 5a of the Interstate Commerce Act, the commission may not approve an agreement, and thus qualify the participants for immunity from the anti-trust laws, unless the pact guarantees the right of independent action to the individual parties. The Department of Justice, protestant in the proceeding (Section 5a Application No. 4), contended that such guarantee must be specifically set out, which it was not in the agreement under consideration. The commission found the department's contention "sound."

Short Course on Perishables Loss at Purdue, March 20-24

The fourth annual "national short course" on transportation losses of perishables will be held at Purdue university, West Lafayette, Ind., March 20-24. Speakers will include outstanding men in the railroad and perishable industries.

No tuition is to be charged, and arrangements have been made to house and feed the group taking the course at the Memorial Union building on the campus. Expenses for board and room are to be borne by each person taking the course. Sponsors of the five-day program are the Freight Claim Division of the Association of American Railroads, the American Railway Development Association and Purdue university. The aim of the courses is to strike directly at the prevention of losses, many of which may be traced to the field, packing and loading plants, or to transportation.

Engine Must Be on Line To Violate Boiler Act

By its refusal to hear an appeal therefrom, the U.S. Supreme Court has in effect upheld a Court of Appeals decision holding that a locomotive, withdrawn from use so that it may be serviced and placed in condition for further use, "is not subject during the period of withdrawal to the penalties of the Boiler Inspection Act." The Supreme Court's order rejecting the appeal was issued on March 13 in the case of *Jack F. Lyle v. Atchison, Topeka & Santa Fe and Gulf, Colorado & Santa Fe Railway Company.*

The petitioner, Lyle, claimed he was injured January 10, 1946, while, as a hostler's helper, he was servicing a locomotive in the yards of the G.C.&S.F. at Gainesville, Tex. Climbing down from the top of the tender to the cab of the locomotive, he allegedly slipped on a grease-covered step of the ladder and fell to the floor of the cab, injuring his left elbow. At the trial court, Lyle was awarded damages of $15,000, on the basis of a finding that the road had violated the Boiler Inspection Act by allowing "grease, oil, or foreign substance to be and remain on the step."

On the railroad's appeal to the U.S. Court of Appeals for the Seventh Cir-

"A TICKET TO TOMAHAWK," full-length Technicolor feature picture to be released in May by Twentieth Century-Fox Film Corporation, is filmed on the Denver & Rio Grande Western's narrow-gage line between Silverton, Colo., and Durango. The story concerns construction of the narrow-gage "Tomahawk & Western" from "Epitaph" to "Tomahawk" —an achievement finally completed within the required time limit by moving the Tomahawk "city limits" out to meet the approaching railhead (above). The picture stars Dan Dailey, Anne Baxter, Walter Brennan, Rory Calhoun and "Emma Sweeny," a 38-ton, diamond-stacked, narrow-gage 10-wheeler (below)

cuit the trial-court verdict was reversed. Appeals court ruled the road could not have violated the Boiler Inspection Act because a locomotive withdrawn for servicing is not "in use on the line" and "employed in active service" as those terms are used in the act. The Supreme Court's refusal to rehear the case allows this decision to stand.

Denies Railroads' Motion For More Interim Mail Pay

The Interstate Commerce Commission has denied the railroads' motion which asked it to raise the interim mail-pay increase from the present 25 per cent to 60 per cent and thus extend to the carriers a substantial measure of additional relief pending final action on their application for a permanent mail-pay advance of 95 per cent. At a recent oral argument on the matter, the Post Office Department opposed the railroads' request that the commission set the motion for hearing (see *Railway Age* of February 4, page 54).

The mail-pay increase is being sought in the reopened No. 9200 proceeding, and the present interim increase of 25 per cent was granted in December, 1947, and made retroactive to February 19, 1947. The order denying the motion for additional relief was dated March 13.

The order said the motion was filed on March 31, 1949, and thereafter held in abeyance, at the request of the railroads, **until December 5, 1949, when they** asked that it be set for hearing. It also was pointed out that the parties' preparations for hearings on the permanent proposal have advanced to where such hearings "probably can be held in September." Hearings on the motion, the order added, would have "unduly" delayed "completion of the preparation of evidence and presentation thereof upon the main issues in the proceeding."

Emergency Board Reports Settlement of T.&P. Dispute

An emergency board appointed to investigate a dispute on the Texas & Pacific has reported to President Truman that its mediatory efforts resulted in negotiation by the parties of a series of agreements covering procedures for settlement of the issues. The dispute involved some 1,400 grievance cases, and demands for rules changes which the board called a "minor phase" of the case.

The T. & P. employees concerned are those represented by the four train and engine service brotherhoods. Members of the board were Chairman Frank M. Swacker, Thomas F. Gallagher, and Paul G. Jasper.

Additional General News appears on pages 98 through 101.

CAR SERVICE

All Coal-Conservation Orders Now Vacated

By Service Order No. 846-A, effective at 11:59 p.m. March 12, the Interstate Commerce Commission vacated Service Order No. 846 which had required reductions in the mileage of coal-burning passenger locomotives during the period of the miners' strike. The commission also made effective at the same time Service Order No. 844-A, thus vacating Service Order No. 844 which had given railroads first call on coal produced by their usual suppliers. Previously, the commission vacated Service Order No. 847, which had required a reduction in the mileage of coal-burning, freight-service locomotive-miles (see *Railway Age* of March 11, page 96).

ORGANIZATIONS

The twelfth annual **Midwest Power Conference** will be held April 5-7, at the Sherman Hotel, Chicago. Principal sessions will be centered around the theme "Economy in Power."

The **Transportation Industry Symposium** of the **National Association of Corrosion Engineers**, at its sixth annual conference, will be held on the afternoon of April 5, at the Jefferson Hotel, St. Louis, Mo. Joseph Winlock, Budd Company, has been appointed chairman, and M. A. Williamson, Pullman-Standard Car Manufacturing Company, and L. W. Smith, Cornell Aeronautical Laboratory, co-chairmen. F. L. LaQue, International Nickel Company, and F. N. Speller, consultant, will discuss "Water-Side Deterioration of Diesel Engine Cylinder Liners," and Ray McBrian, Denver & Rio Grande Western, will have as his subject "Problems in Corrosion of the Railroads."

The fifth annual convention of the **American Society of Lubrication Engineers** will be held at the Hotel Statler, Detroit, Mich., on April 10-12. The third annual lubrication exhibit of the society will be held at the Statler simultaneously. Keynote of the convention will be "Preventive Maintenance through Proper Lubrication."

The **Atlantic States Shippers Advisory Board** will hold its 81st regular meeting at the Hotel Roanoke, Roanoke, Va., on April 12-13. Guest speaker at luncheon on the 13th will be R. H. Smith, president, Norfolk & Western.

Kenneth Cartwright, chief mechanical engineer of the New York, New Haven & Hartford, was elected president of the **New England Railroad Club** at its annual meeting in Boston, Mass., on March 14, to succeed E. E. Oviatt, chief engineer of the same company. R. G. Henderson, freight traffic manager of the Boston & Albany, was elected vice-president and P. S. Chynoweth, of the Sherburne Company, treasurer. The following, in addition to Messrs. Cartwright, Oviatt, Henderson and Chynoweth, were chosen as directors: C. W. Crissy, general foreman, Boston & Albany; E. W. Peterson, purchasing agent, Bangor & Aroostook; E. K. Bloss, mechanical superintendent, Boston & Maine and Maine Central; W. R. Sederquest, superintendent locomotive maintenance, New Haven; C. T. Gunsallus, district engineer, Boston & Albany; J. Frank Doolan, executive vice-president, New Haven; R. E. Baker, assistant general manager, B. & M. and M. C.; W. J. Strout, chief engineer, Bangor & Aroostook; G. H. Bolton, tie and timber agent, B. & M.; and J. W. Wiggins, engineer, maintenance of way, M. C. The finance committee will consist of Mr. Cartwright, W. B. Joyce and L. J. McCombs.

The **Car Foremen's Association of Chicago** announced, at a recent meeting, enlargement of its board of directors by addition of one director representing the membership at large. E. L. Woodward, western mechanical editor, *Railway Age*, who was unanimously elected to this position, is also a member of the Subjects committee and chairman of the Publicity committee.

Norris W. Embry, president of the General Box Company at Chicago, was elected president of the **Wirebound Box Manufacturers Association**, at its annual meeting at St. Simon's Island, Ga.

Robert C. Downie, president, Peoples First National Bank & Trust Co., Pittsburgh, Pa., will address the members of the **Allegheny Regional Advisory Board** at the luncheon session of the 62nd regular meeting, to be held in the William Penn Hotel, Pittsburgh, on March 23. The subject of his talk will be "The Cost of Our Federal Government and the Hoover Commission Report." Also, W. E. Callahan, manager, Open Top Section, Car Service Division, A.A.R., will give an outline of the national transportation situation.

The **Eastern Association of Car Service Officers** will hold its next meeting on April 13, at 10 a.m., at the Roosevelt Hotel, Pittsburgh, Pa.

The silver anniversary meeting of the **Pacific Northwest Advisory Board** will be held in the Multnomah Hotel, Portland, Ore., on March 23. The guest speaker, Tom Hall, Washington state senator from Olympia, will discuss factors and problems affecting development of the Columbia valley, and C. R. Megee, vice-chairman, Car Service Division, A.A.R., will speak on the national transportation situation.

Frederick G. Beach, supervisor motion picture bureau, New York Central, will discuss "The Motion Picture Bureau on

News Department continued on next left-hand page

From the Annual Report of

READING COMPANY

1949

—Due to work stoppages in the coal and steel industries, as well as mild weather affecting coal demand, revenues were reduced 15% as compared with 1948.

—Operating expenses were reduced $10,637,766 under 1948, despite wage increases and changes in working conditions.

—Notwithstanding increased costs and reduced traffic, basic operating factors were maintained at a high level as the result of road improvements and the increased use of diesel locomotives.

—Taxes charged to railway operations were $8,900,159, or 8.11 cents out of each dollar of revenue.

—Dividends paid to stockholders totalled $5,596,290, making the forty-fourth consecutive year in which Reading has paid dividends on all classes of stock.

—Fifteen 1,000-hp. diesel switching locomotives, 750 all-steel hopper cars, and 6 multiple unit passenger cars with 6 trailers were acquired.

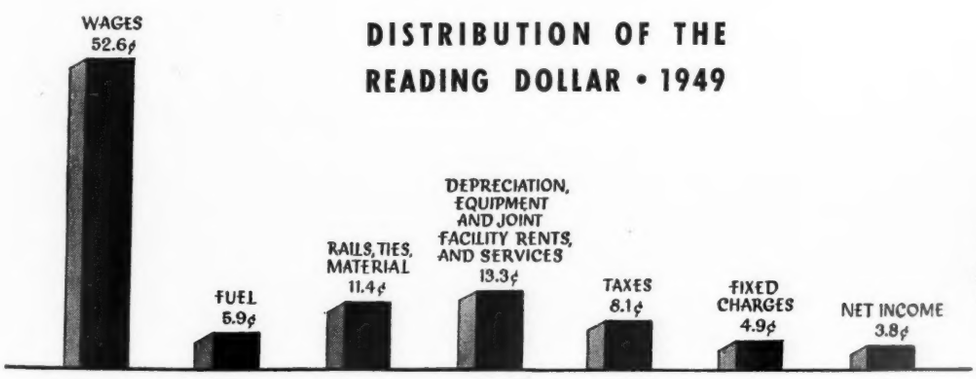
Ker Brown

President

REVENUES, EXPENSES and EARNINGS for 1949

	December 31		Increase or Decrease
	1949	1948	
REVENUES FROM OPERATION—Transportation of freight, passengers, mail, express, and all other	$109,747,175	$129,316,400	$19,569,225–D
EXPENSES OF OPERATION—Cost of transportation service, maintenance and depreciation of road facilities and equipment and solicitation of traffic	91,266,297	101,904,063	10,637,766–D
LEAVING AS NET REVENUE FROM OPERATIONS	$ 18,480,878	$ 27,412,337	$ 8,931,459–D
TAX ACCRUALS—Federal and state income, railroad retirement, unemployment insurance, and other taxes applicable to railway operations	$ 8,900,159	$ 13,282,669	$ 4,382,510–D
NET PAYMENTS FOR RENT OF EQUIPMENT AND JOINTLY USED RAILROAD FACILITIES	202,166	524,761	322,595–D
NET RAILWAY OPERATING INCOME	$ 9,378,553	$ 13,601,907	$ 4,226,354–D
OTHER INCOME—Dividends, interest and rentals, less miscellaneous deductions	$ 1,932,286	$ 1,812,136	$ 119,850–I
GROSS INCOME AVAILABLE FOR FIXED CHARGES	$ 11,310,839	$ 15,417,343	$ 4,106,504–D
FIXED CHARGES—Interest on funded and unfunded debt, rent for leased roads, and amortization of discount on funded debt	5,421,784	5,323,555	98,229–I
NET INCOME AVAILABLE FOR DIVIDENDS, CAPITAL EXPENDITURES AND OTHER CORPORATE PURPOSES	$ 5,889,055	$ 10,093,788	$ 4,204,733–D

DISTRIBUTION OF THE READING DOLLAR • 1949



a Railroad" at the next meeting of the **New York Division** of **Railroad Enthusiasts, Inc.**, to be held on March 22, at 7:45 p.m., at Grand Central Terminal. Mr. Beach will show samples of movies to illustrate his talk.

The **Ohio State Welding Engineering Conference** will hold its 11th meeting on April 14 and 15, at Ohio State University, Columbus, Ohio.

CONSTRUCTION

Chesapeake & Ohio.—This road has awarded contracts for the following projects, at the indicated estimated costs: To Echols Brothers, Inc., Staunton, W. Va., for grading and drainage work involved in construction of team track and unloading facilities at Waynesboro, Va. ($29,000); to B. F. Parrott & Co., Roanoke, Va., for extending a storeroom at Huntington, W. Va. ($260,000); and to the Codell Construction Company, Winchester, Ky., for grading and drainage work involved in construction of two 75-car set-off tracks and Diesel servicing facilities at Royalton, Ky. ($210,000). The following projects, to be undertaken by C. & O. forces, have been authorized: Stabilizing foundation of a 115-ft. turntable at Hinton, W. Va. ($57,000); and constructing a 130-ft. turntable to replace a 115-ft. turntable at Russell, Ky. ($199,000).

New York, New Haven & Hartford.—This road has offered to sell to the town of Quincy, Mass., its station in that city together with a considerable portion of the land on both sides of the tracks. The New Haven would retain in perpetuity rights for the maintenance of proper railroad station facilities on the site. The sale of the road's passenger station at Norfolk Downs, Mass., and adjacent grounds on Newport avenue in Quincy, has been announced. The purchaser is the Pneumatic Scale Corporation, which has a plant on adjoining property. Terms of the sale included rights in perpetuity for the New Haven to use part of the present building, or any structure which later may be erected on the site, for station facilities.

SUPPLY TRADE

Standard Railway Mfg. Net Was $2,311,870 Last Year

Net profit of the Standard Railway Equipment Manufacturing Company last year was $2,311,870, equal to $1.67 a share, compared with $3,640,937, equal to $2.63 a share, in 1948, according to the recently released annual report. Sales in 1949 totaled $17,293,914, compared with $24,359,575.

Commenting on the 1950 outlook, the report said: "Railroads withheld orders in 1949 until, by the end of the second quarter, there was a marked and continued reduction in the number of freight cars on order. However, buying resumed late in the year and has continued, with Standard obtaining orders for a satisfactory volume of its products. . . . We believe that orders on hand, the unabated need for new freight cars which should result in continuing demand for the company's products. . . warrant our expectation that operations in 1950 will be satisfactory."

Baldwin's 1949 Net Tops Preceding Year

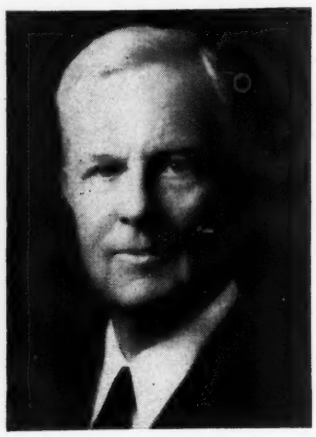
Net profit of the Baldwin Locomotive Works and its wholly owned subsidiaries last year was $3,522,223, equal, after preferred dividends, to $1.41 a common share, compared with $3,167,741, equal to $1.26 a share, in 1948, according to the annual report released this week. Net sales for 1949 were $119,002,443, compared with $126,434,845. The report pointed out that no dividends were received from the subsidiary Midvale Company last year while in 1948 Baldwin received $670,994 in Midvale dividends. About 75 per cent of net sales were of locomotives and locomotive parts, steam and Diesel, and almost 70 per cent of all locomotive sales were of the Diesel type.

Safety Car Net Was $893,635

Net income of the Safety Car Heating & Lighting Co. and subsidiaries in 1949 was $893,635, compared with $729,145 in the preceding year, according to the recently released annual report. Sales, including revenue service, totaled $7,586,163, compared with $8,212,063. The backlog of orders has been reduced materially, the report said, and the extent to which the company's facilities will be engaged during 1950 depends on the demand for railway passenger car equipment. "While no general buying movement is indicated," the report added, "we anticipate an encouraging pickup in orders."

Samuel MacClurkan, whose appointment as manager of railway sales for the **Pyle-National Company**, at Chicago, was reported in the *Railway Age* of February 25, began his career as a railroad clerk. Following service in that capacity on various railroads, he went with the Chicago, Rock Island & Pacific in the general office, later being employed on the Chicago, Cincinnati & Louisville (now part of the Chesapeake & Ohio). Subsequently Mr. MacClurkan served as general agent on the St. Joseph & Grand Island (now part of the Union Pacific) and in various capacities on the Chicago, Milwaukee & St. Paul (now Chicago, Milwaukee, St. Paul & Pacific), becoming the first general agent of the Chicago, Milwaukee & Puget Sound (Milwaukee). He also held the post of assistant general agent for the Milwaukee at Chicago and in 1917 joined the Transmarine Corporation as vice-president. Prior to his recent appointment with Pyle-National, Mr. MacClurkan served as vice-president of the American Arch Company, contacting all railroads, with headquarters at New York.

At a special meeting of the board of directors of **Combustion Engineering-Superheater, Inc., Samuel G. Allen,** formerly vice-chairman, was elected chairman of the board to succeed the late **Frederic A. Schaff,** whose death was reported in



Samuel G. Allen

the *Railway Age* of February 18, page 367. Mr. Allen is connected, as an officer or director, with several other companies, including the Franklin Railway Supply Company, the Lima-Hamilton Corporation, the G. M. Basford Company and the Lummus Company.

Joseph V. Santry

Joseph V. Santry, long president of Combustion Engineering Company and its successor, Combustion Engineering-Superheater, will serve also as chief executive officer in general charge of operations.

J. Leonard Wood, assistant vice-president in the engineering department of

the **American Car & Foundry Co.**, has retired after 44 years of service. Mr. Wood joined American Car & Foundry in 1906 as local engineer in the Memphis, Tenn., plant. In January, 1928, he was transferred to the New York office as assistant mechanical engineer and in December, 1936, he was appointed mechanical engineer. He became assistant vice-president in January, 1944.

William G. Miller, formerly manager of the Auburn, N. Y., plant of the **American Locomotive Company**, has been appointed executive assistant to the chairman and president, Duncan W. Fraser. He is succeeded at Auburn by **Charles T. Lathrop**, formerly works manager there. Mr. Miller joined the Alco products division of the company at New York in 1932 as a project engineer and, in 1937, was sent to France to direct construction of oil refining units for a French affiliate of the Anglo-Iranian Oil Company. He returned to New York in 1939 and one year later was transferred to the staff of the vice-president in charge of manufacturing. In October, 1945, he became superintendent of the Diesel locomotive division in Schenectady, N. Y. and, in February, 1948, he was appointed assistant to the manager of the Auburn plant. He became manager six months later.

William Darrach has been appointed sales engineer for **J. M. Barclay, Inc.**, Newark, N. J., sales representative for the **Automatic Transportation Company**, Chicago. Mr. Darrach was formerly project engineer for the Universal Winding Company, Atwood division, at Stonington, Conn.

James Hollands Alderman, headquarters representative for the Conduit products division of **General Electric Company**, Bridgeport, Conn., has been appointed district representative for the construction materials department's north central district, with home offices at Indianapolis, Ind. In his new post, Mr. Alderman will assume all field duties for conduit products, wiring devices, accessory equipment, and wire cable for this area.

L. J. Wing Manufacturing Company has consolidated its three factories at Newark, N. J., and general offices at New York in a single factory building at Vreeland Mills road, Linden, N. J. The office at 154 West 14th street, New York 11, will be maintained to handle New York city sales.

Eugene G. Sheasby, general staff manager, general sales department, **United States Steel Supply Company** (a subsidiary of the **United States Steel Corporation**), with headquarters at Chicago, has been appointed assistant district manager for the Pittsburgh, Pa., district.

A. G. Hendrickson has been appointed assistant sales manager of the P&H welding division, **Harnischfeger Corporation**, Milwaukee, Wis. Mr. Hendrickson has served as welding engineer in the Milwaukee and Minneapolis, Minn., territories for the past five years.

H. L. Purdy has been elected vice-president of the **Purdy Company**, Chicago, with headquarters at San Francisco, Cal. **Frank Pickett** has been appointed scrap buyer at that point.

The **Quaker Rubber Corporation**, Philadelphia, Pa., now a division of the **H. K. Porter Company**, of Pittsburgh, Pa., has opened a stock carrying branch at 311 First avenue, Pittsburgh. The new branch is under the direction of **H. M. Sossaman**, formerly assistant general sales manager.

John Crow has resigned from the **Royce Kershaw Company** as vice-president and chief engineer, and has organized his own firm, the **Crow Engineering Company**, with headquarters at Montgomery, Ala. Mr. Crow will serve as general manager of the new organization.

The **Northeast Industrial Equipment Company**, Cambridge, Mass., has been appointed by the **Hyster Company**, Portland, Ore., to handle sales and service of Hyster lift trucks, straddle trucks, mobile cranes and their attachments, in Maine, New Hampshire, Rhode Island and 10 counties of Massachusetts.

OBITUARY

Richard Armstrong, chief metallurgist of the Pittsburgh Steel Foundry Corporation, Glassport, Pa., died recently.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The **Reading** is inquiring for 1,000 50-ton hopper cars and 500 50-ton box cars.

PASSENGER CARS

The **New York, Susquehanna & Western** is inquiring for 16 coaches.

LOCOMOTIVES

Rock Island to Purchase 20 Diesels Costing $2,500,000

The board of directors of the Chicago, Rock Island & Pacific has authorized the purchase of 20 Diesel-electric locomotive units at an estimated total cost of $2,500,000. As a further step toward its goal of complete Dieselization, the road plans to acquire 12 1,500-hp. road-switching units, 7 800-hp. switching units and 1 2,250-hp. passenger unit.

The **Toronto, Hamilton & Buffalo** has ordered 8 Diesel-electric locomotive units from General Motors Diesel of Canada, Ltd. Included in the order are 4 1,200-hp. switchers and 4 1,500-hp. road switchers.

SIGNALING

The **Norfolk & Western** has placed an order with the Union Switch & Signal Co. for the necessary material to replace a mechanical interlocking at Iaeger, W. Va., with an electro-pneumatic interlocking. The existing 36-lever mechanical machine will be replaced by a 5-ft. Style C. control machine. The order also includes material for installing electro-pneumatic switch machines and associated signals, which will be controlled from the same machine, at the pull-in and pull-out switches on each end of middle tracks at Wilmore, W. Va., 5.4 mi. east of Iaeger, and at Alnwick, W. Va., 12.3 mi. west of Iaeger. Field installation work will be done by railroad forces.

FINANCIAL

Atlantic Coast Line-Louisville & Nashville.—*Bonds of Carolina, Clinchfield & Ohio.*—These roads, together with their joint lessor, the C.C. & O., have applied to the I.C.C. for authority to issue $3,885,000 in first mortgage series B bonds of the C.C. & O. The bonds, to be guaranteed jointly by the A.C.L. and the L. & N., would be delivered to these latter roads where they would be sold on the basis of competitive bids. Proceeds from the sale of the bonds would be used to partially reimburse the A.C.L. and the L. & N. for additions, improvements and extensions made to C.C. & O. properties between January 1, 1938, and August 31, 1949. According to the application, the total amount expended during this period for which the A.C.L. and L. & N. are due reimbursement is $3,954,160.95. The two roads would guarantee principal, interest, and sinking fund payments on the C.C. & O. bonds. The bonds would be dated January 1, 1950, and mature January 1, 1980, and would bear interest at not more than 3¾ per cent.

Chicago & Eastern Illinois.—*New Director.*—George C. Kopp, executive vice-president of the City National Bank & Trust Co., of Kansas City, has been elected to this road's board of directors to succeed the late Victor V. Boatner.

Ft. Smith & Van Buren.—*Extension of Note.*—This road has applied to the I.C.C. for authority to extend to October 1, 1975, its first mortgage promissory note of $130,000. The note, held by the Kansas City Southern, is due April 1, 1950, but the Ft.S.&V.B. said in the application that it does not have sufficient funds to pay the note at maturity. The K.C.S. owns all the stock of the Ft.

Smith road, and the application noted that the K.C.S. has agreed to the proposed extension. The note bears interest at 4 per cent.

Houston Belt & Terminal.—*Terminal Unification Plan.*—Division 4 of the Interstate Commerce Commission has approved various transactions contemplated by agreements which this company and seven other roads serving Houston, Tex., have entered for the purpose of unifying terminal facilities and operations there. The parties, in addition to the Belt, are the Gulf, Colorado & Santa Fe, subsidiary of the Atchison, Topeka & Santa Fe; Fort Worth & Denver City, subsidiary of the Chicago, Burlington & Quincy; Chicago, Rock Island & Pacific; and four constituents of the Missouri Pacific System, i.e., the International-Great Northern, the Beaumont, Sour Lake & Western, the St. Louis, Brownsville & Mexico, and the Sugar Land.

Generally, the agreements provide for changes in ownership of the Belt, enlargement of its facilities by lease of properties from the other parties, and greater use by the latter of the Belt as their switching agency. "The . . . plan," as the commission described it, "is of considerable scope and embraces all the railroads serving Houston . . . other than the Texas & New Orleans and the Missouri-Kansas-Texas. . . . It will enable the applicants involved to eliminate the delays and safety hazards encountered by their trains being required to cross heavily traveled city streets, and also delays resulting from various other features involved in the present separation of facilities, and permit them to perform a more efficient service to the public at less cost. From 4 to 14 hours will be saved in the movement of traffic through Houston or in effecting delivery to industries. This saving in time at Houston will enable the schedules on perishable traffic moving from the Rio Grande Valley to the eastern portion of the United States to be reduced by one full day. . . ."

The changes in ownership of the Belt will include the acquisition by the Denver City and the Rock Island of the 25 per cent stock ownership now held by the Burlington-Rock Island, each of the buyers acquiring a 12½ per cent interest. The remaining 75 per cent of the Belt's stock is owned in equal parts by the Beaumont, the Brownsville, and the G.C. & S.F. The proprietory roads will also guarantee the Belt's first-mortgage bonds, outstanding in the amount of $3,085,000. Other phases of the plant, as approved by the commission, include provisions for the pooling of demurrage revenues and the division thereof.

The proceeding involving the plan was Finance Docket No. 16592, but Division 4's approval of it embraced corollary determinations made in a supplemental report in Finance Docket No. 14400, Burlington-Rock Island Railroad Company Lease; and in a report in Finance Docket No. 16257, which embraced also Finance Docket No. 16258. The latter report approved acquisition by the I.-G.N. of trackage rights over 2.89 mi. of Beaumont line in the Houston terminal area.

New York, New Haven & Hartford.—*New Director.*—James V. Toner, president of the Boston (Mass.) Edison Company, has been elected to this road's board of directors, and Edward F. Williams, resident manager of the American Woolen Company's Affabet Mills at Maynard, Mass., has been elected a member of the executive committee.

St. Louis Southwestern.—*Lease of Paragould Southeastern.*—This road has applied to the I.C.C. for authority to lease the properties of the P.S., a wholly owned subsidiary, from January 1, 1950, to July 1, 1990. A former lease under which the St.L.S. operated the properties expired in 1944 and has not been renewed. Under the new lease the St.L.S. will pay no fixed rentals, but will maintain and operate the 37.3 mi. of P.S. line, paying taxes, depreciation, and sums sufficient to maintain the corporate structure of the leased road. In addition, the St.L.S. will waive interest payments on the $511,000 of first and refunding mortgage 5 per cent bonds of the P.S. held by the lessor.

Smoky Mountain. — *Reorganization.*—Noting that the U.S. District Court for the Eastern District of Tennessee has dismissed this road's reorganization petition, the I.C.C. has dismissed the S.M.'s request, filed in 1948, to have the commission make an investigation in order to formulate a reorganization plan for the S.M. In addition, the I.C.C. had been asked by the S.M. to certify to the District Court any reorganization plan so formulated, or else advise the court that no plan was feasible or practicable.

As reported in *Railway Age* of June 12, 1948, the state of Tennessee and certain shippers asked the I.C.C. to dismiss the S.M.'s petitions. The commission deferred action at that time however, other than denying the road's request for recommendations as to what action should be taken by the trustee "to recover funds which may have been improperly expended by the debtor."

Southern Pacific Company.—*Convertible Debentures.*—This company has announced receipt of two bids for underwriting, at their principal amount, an offering of convertible debentures in the amount of $37,727,600, offered to its stockholders. Subject to authorization by the Interstate Commerce Commission, the bid for purchase of debentures not subscribed by the stockholders was submitted by Blyth & Co., Inc. and Salomon Brothers & Hutzler and associates. Underwriting compensation to be paid by the company was $735,688.20, equivalent to a cost of about 3.230 per cent annually.

Tennessee Central.—*R.F.C. Loans.*—Extension by the Reconstruction Finance Corporation to April 1, 1960, of the maturity date of this road's R.F.C. loans has been approved by Division 4 of the I.C.C. The loans, totaling $5,232,300, would have been due April 1. At the same time, the commission has given its approval for an additional R.F.C. loan of $375,000 to the T.C. for the purpose of funding a like amount of interest due April 1 on the loans that are being extended.

In approving these transactions, Division 4 noted that the road expects an improvement in traffic, and that the T.C. has "materially reduced" operating and maintenance costs by partial Dieselization. The R.F.C. holds $1,232,000 of the road's equipment trust certificates in addition to the $5,232,300 in other loans. The loans being extended will continue to be secured by the T.C.'s First Mortgage series A bonds amounting to $6,216,000. Among other conditions which the commission would impose on the road in connection with extending the loans would be a requirement that the road repay in full before such extension a $200,000 "temporary advance" made by the R.F.C. in July, 1949. The final payment on this advance also is due April 1. In addition, the commission said the T.C. should agree with the R.F.C. to make payments on the principal of the loans on April 1 of each year.

New Securities

Applications have been filed with the Interstate Commerce Commission by:

Erie.—To issue $417,000 of first consolidated mortgage bonds, series J, proceeds from the sale of which will be used to purchase first mortgage bonds of two of the Erie's lessor roads. The Guaranty Trust Company of New York has agreed to purchase the $417,000 in Erie bonds at 100 and accrued interest. After the sale, the Erie will purchase from the Goshen & Deckertown the latter's new first mortgage bond of $246,500, and from the Montgomery & Erie a new first mortgage bond of $170,500. The G.&D. and the M.&E. have filed concurrently with the I.C.C. for permission to issue their respective bonds.

With the proceeds from the sale of their bonds to the Erie, the two lessor roads will be able to retire their present mortgage indebtedness, consisting, in each case, of both first and second mortgage bonds. The G.&D. outstanding first mortgage bonds bear interest at 5½ per cent and are callable at 107½ and accrued interest, while this road's second mortgage bonds carry interest at 6 per cent and are callable at 107½. The M.&E. bonds all bear a 5 per cent interest rate and are callable at 105 and accrued interest. Calling the bonds of both roads will therefore require premiums totaling $27,012.50 which the Erie has agreed to pay in addition to purchasing at par the new first mortgage bonds.

The new bonds of the lessor roads will bear interest at 2 per cent. This will result in a saving in annual interest payments of $8,927.50 for the G.&D. and $5,115 for the M.&E. Under their respective lease arrangements, however, all but $300 in the case of the G.&D. and all but $852.50 in the case of the M.&E. will be passed along to the Erie in the form of reduced yearly rentals.

Seaboard Air Line.—To assume liability

for $7,065,000 of series G equipment trust certificates to finance in part 67 new Diesel-electric locomotives, as follows:

	Description and Builder	Estimated Unit Cost
5	1,500-hp. road switching .... (American Locomotive Company)	$139,494.20
8	1,500-hp. road Switching .... (Electro-Motive Division, General Motors Corporation)	149,766.53
4	1,500-hp. road switching .... (Electro-Motive)	139,512.40
6	1,600-hp. road switching .... (American)	139,693.36
4	1,600-hp. road switching .... (American)	156,400.37
1	1,600-hp. road switching .... (American)	146,852.70
3	1,000-hp. switching ..... (Baldwin Locomotive Works)	98,133.33
18	1,500-hp. road switching .... (Electro-Motive)	140,631.06
18	1,600-hp. road switching .... (American)	140,463.36

The application estimated the total cost of the equipment at $9.420.167. The certificates, to be dated April 1, would mature in 15 annual installments of $471,000 each, beginning April 1, 1951. They would be sold on the basis of competitive bids. The Seaboard said in its application that this equipment, when placed in service, will "completely Dieselize" its South Florida division.

Average Prices Stocks & Bonds

	Mar. 14	Prev. week	Last year
Average price of 20 representative railway stocks	42.22	42.75	39.04
Average price of 20 representative railway bonds	92.50	92.60	87.90

Dividends Declared

Akron, Canton & Youngstown.—common, 50¢, semiannual, payable April 1 to holders of record March 15; 5% preferred, $2.50, semiannual, payable April 1 and October 1 to holders of record March 15 and September 15.

New London Northern.—$1.75, quarterly, payable April 1 to holders of record March 15.

Norwich & Worcester.—8% preferred, $2.00, quarterly, payable April 1 to holders of record March 15.

St. Louis Southwestern.—$5.00, payable March 24 to holders of record March 17.

Seaboard Air Line.—common, irregular, 50¢, payable March 31 to holders of record March 20; 5% preferred, $1.25, quarterly, payable March 31, June 30, September 29 and December 27, to holders of record March 20, June 9, September 8 and December 8.

Southern (M. & O. Stock Trust).—$2.00, semiannual, payable April 1 to holders of record March 15.

RAILWAY OFFICERS

OPERATING

J. W. Hale, assistant to chief engineer of the Atlantic Coast Line, has been appointed assistant to general manager, with headquarters as before at Wilmington, N. C. A biography and photograph of Mr. Hale were published in the *Railway Age* of March 19, 1949, page 116.

J. S. Harper has been appointed terminal trainmaster of the Atlantic Coast Line at Savannah, Ga.

PURCHASES & STORES

Frank J. Murray, whose appointment as purchasing agent of the Lehigh Valley at New York was reported in the *Railway Age* of February 25, was born on April 2, 1898, at Jersey City, N. J. He attended public and business schools there, supplementing his education at night high school at Jersey City and at Pace Institute in New York. Mr. Murray entered the service of the L. V. at New York in 1918 as a stenographer in the insurance bureau, later becoming manager of the bureau. Upon consolidation of the insurance department with the operating department he became chief clerk to the operating vice-president. He joined the purchasing department in 1937 and held various posts until his appointment in 1943 as assistant purchasing agent, in which capacity he served until his recent appointment as purchasing agent.

Frank J. Murray

TRAFFIC

L. B. Freeman, general agent of the Grand Trunk Western (part of the Canadian National) at Philadelphia, Pa., has been appointed assistant to freight traffic manager, with headquarters at Chicago.

A. J. Winkler who has been appointed district passenger agent in charge of the Houston, Tex., and San Antonio territories for the Wabash, with headquarters at Houston. Appointed also district passenger agent is **M. E. Hohnbaum,** with headquarters at Dallas, Tex.

Harvey R. Wright, assistant general freight agent of the Atchison, Topeka & Santa Fe at San Francisco, Cal., has been promoted to freight traffic manager at Chicago, succeeding **Theodore M. Caiazza,** appointed assistant to the vice-president—traffic at that point.

L. E. Ward, Jr., industrial agent of the Norfolk & Western, has been promoted to assistant industrial and agricultural manager at Roanoke, Va., a new position.

F. H. Hemphill has been appointed assistant general freight agent of the Atchison, Topeka & Santa Fe, with headquarters at San Francisco, Cal., succeeding **H. R. Wright,** promoted to freight traffic manager at Chicago.

Carl Edward Carlson, whose appointment as general freight agent of the Chicago, Burlington & Quincy at Kansas City, Mo., was reported in the *Railway Age* of March 4, was born on August 7, 1892, at Rock Island, Ill., where he attended elementary and high school. He began his railroad career in the Burlington's operating department in his home town in August, 1910. Six years later he was transferred to the road's freight traffic department as rate clerk, leaving that post in September, 1917, to serve in the U. S. Army. In March, 1919, Mr. Carlson returned to his former position with the Burlington at Rock Island. After holding various clerical positions successively at Billings, Mont., Omaha, Neb., and Rock Island, he was appointed traveling freight agent in 1926. The next year he became commercial agent at Davenport, Iowa, and in 1930 was promoted to division freight agent at Rock Island. Prior to his recent appointment, Mr. Carlson had served as assistant general freight agent at Kansas City.

SPECIAL

A. L. Loeffert, rule instructor—system of the Grand Trunk Western, has been appointed to the newly created position of superintendent of labor relations, with headquarters at Detroit, Mich.

OBITUARY

Everett Kerr, late superintendent of transportation, Western lines, Railway Express Agency, with headquarters at Chicago, whose death was reported in the *Railway Age* of February 25, was born on November 13, 1888, at Nevada, Mo. Mr. Kerr began his career with Railway Express and its predecessors in April, 1907, as a messenger at Havana, Kan. In 1911 he went to Kansas City, Mo., as a messenger, and in 1918 became route clerk at Chicago. He was advanced to supervisor, transportation, at the latter point in 1923, being promoted to superintendent of transportation, Western lines, at Chicago in 1937.

George A. Ehmer, late auditor of the Association of Western Railways at Chicago, whose death was reported in the *Railway Age* of February 25, was born on May 13, 1895, at Dubuque, Iowa. Mr. Ehmer began his railroad career in 1913 with the Chicago, Milwaukee & St. Paul (now C.M.St.P.&P.) and subsequently held positions with that road in the store department, superintendent's office, district accountant's office, and auditor of disbursements' office. In 1933 he joined the Western Association of Railway Executives (now Association of Western Railways) as auditor, continuing in that position until his death. He was a member of the Accounting division, Association of Western Railways, since 1937.

Revenue and Expense table appears on next left-hand page

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1950	1949
Akron, Canton & Youngstown	Jan.	171	348,594	117	360,489	55,580	39,299	32,474	114,536	266,697	74.0	93,792	41,052	48,901	58,066
Atchison, Topeka & Santa Fe System	Jan.	13,073	29,648,308	3,561,127	36,425,779	4,750,737	7,297,569	870,881	12,310,182	26,890,359	73.82	9,535,420	4,985,058	4,425,158	2,473,614
Atlanta & St. Andrews Bay	Jan.	82	242,372	854	249,307	29,110	16,175	6,759	52,149	118,392	47.5	130,915	54,708	52,725	34,610
Atlanta & West Point	Jan.	93	246,953	46,956	335,195	41,376	49,445	13,356	158,658	285,538	85.1	49,657	32,140	—163	7,224
Western of Alabama	Jan.	133	273,253	46,783	353,044	39,205	56,383	13,873	139,415	270,156	76.5	82,888	46,717	33,883	17,009
Atlantic & Danville	Jan.	205	96,000	.....	99,300	24,000	6,500	6,700	40,200	87,000	87.6	12,300	7,600	—2,800	.....
Atlantic Coast Line	Jan.	5,526	8,604,163	1,895,405	11,361,744	1,831,111	1,693,358	322,615	4,512,560	8,891,260	78.3	2,470,484	1,050,000	1,218,466	1,192,388
Charleston & Western Carolina	Jan.	343	375,297	1,339	386,017	68,158	46,459	15,679	156,218	295,739	76.6	90,278	40,000	48,611	2,614
Baltimore & Ohio	Jan.	6,201.70	23,914,386	1,766,764	27,260,377	3,343,461	6,661,185	708,146	12,193,509	24,260,240	89.0	3,000,137	1,550,071	929,827	2,819,091
Staten Island Rapid Transit	Jan.	29	179,593	46,853	230,462	36,476	37,806	1,633	124,508	220,838	95.8	9,624	32,619	—38,889	—41,358
Bangor & Aroostook	Jan.	602	1,034,567	32,326	1,099,017	169,179	190,130	13,697	268,825	688,931	62.7	410,086	172,322	196,340	245,272
Bessemer & Lake Erie	Jan.	212	813,911	899	833,406	119,589	457,100	15,314	299,618	972,871	116.7	—139,465	100,265	53,918	176,018
Boston & Maine	Jan.	1,712	5,010,502	961,341	6,562,159	1,075,137	1,018,910	117,708	2,979,859	5,513,282	84.0	1,048,877	529,201	185,699	252,193
Burlington-Rock Island	Jan.	228	291,239	49,154	361,303	55,171	41,915	5,270	164,181	287,331	79.5	73,972	10,897	—9,901	—3,867
Cambria & Indiana	Jan.	35.38	83,552	.....	83,593	12,980	86,379	940	18,546	129,553	154.9	—45,960	37,845	23,621	86,605
Canadian Pacific Lines in Maine	Jan.	234	572,036	36,359	635,542	65,204	90,726	5,657	224,019	397,418	62.5	238,124	24,488	134,292	198,537
Canadian Pacific Lines in Vermont	Jan.	90	143,883	13,972	176,161	38,298	28,794	4,251	97,162	175,318	99.5	843	11,457	—55,656	—99,661
Central of Georgia	Jan.	1,815.29	2,447,219	240,254	2,919,898	514,391	505,873	113,397	1,398,710	2,696,471	92.3	223,427	216,435	—50,461	59,196
Central of New Jersey	Jan.	411	2,230,498	478,775	2,899,584	374,228	507,292	52,254	1,519,118	2,612,369	90.1	287,215	364,120	—366,922	—596,663
Central of Pennsylvania	Jan.	212	1,234,018	10,386	1,273,971	105,632	329,825	23,176	427,091	925,156	72.6	348,815	55,828	579,465	777,882
Central Vermont	Jan.	422	668,000	52,000	771,000	108,281	154,148	14,165	351,052	661,018	85.7	109,982	46,731	—1,133	1,824
Chesapeake & Ohio	Jan.	5,118	19,204,972	566,917	20,347,743	3,422,208	4,734,922	530,466	7,505,353	17,183,283	84.4	3,164,460	1,995,969	1,484,885	3,419,876
Chicago & Eastern Illinois	Jan.	906	1,690,337	257,301	2,163,414	274,373	318,217	93,351	975,351	1,788,741	82.7	374,673	88,000	132,073	142,950
Chicago & Illinois Midland	Jan.	130	451,072	468	466,968	79,399	111,466	31,975	163,111	421,535	90.3	45,433	36,232	14,875	127,495
Chicago & North Western	Jan.	8,075	9,760,125	1,607,577	12,819,906	1,843,328	2,640,331	292,059	6,535,251	12,034,557	93.9	785,349	1,016,647	—605,085	—1,844,323
Chicago, Burlington & Quincy	Jan.	8,873	13,339,972	1,326,782	16,175,878	1,794,497	2,711,065	413,854	6,616,944	12,225,005	75.6	3,950,873	2,052,827	1,457,243	551,466
Chicago Great Western	Jan.	1,480	2,437,315	20,811	2,600,839	471,681	304,858	100,352	849,993	1,800,067	69.2	800,772	248,319	311,834	174,644
Chicago, Indianapolis & Louisville	Jan.	541	1,167,412	80,022	1,321,328	260,420	264,525	74,029	531,998	1,214,998	91.9	106,330	70,662	—45,267	32,715
Chicago, Milwaukee, St. Paul & Pacific	Jan.	10,671	13,617,880	1,385,030	16,682,704	2,195,244	3,770,266	394,918	8,717,152	15,981,563	95.8	701,141	1,340,000	—1,083,057	—1,322,248
Chicago, Rock Island & Pacific	Jan.	7,619	10,837,506	1,578,327	13,542,243	1,531,214	2,445,699	448,618	5,621,770	10,755,859	79.4	2,786,384	1,265,608	735,808	1,099,653
Chicago, St. Paul, Minn. & Omaha	Jan.	1,617	1,953,360	184,259	2,316,133	301,583	339,509	55,129	1,385,204	2,199,737	95.0	116,396	171,155	—187,138	—206,933
Clinchfield	Jan.	317	1,506,317	1,663	1,518,194	215,935	272,327	34,623	365,642	919,902	60.6	598,292	161,785	506,509	345,199
Colorado & Southern	Jan.	746	840,289	82,121	1,005,425	131,892	191,836	23,776	391,711	786,987	78.3	218,438	109,989	50,767	—149,682
Ft. Worth & Denver City	Jan.	902	1,236,841	114,779	1,445,285	158,205	179,560	43,119	441,854	893,795	61.8	551,490	198,697	283,839	20,913
Colorado & Wyoming	Jan.	41	101,649	.....	177,298	10,030	21,829	1,211	79,496	121,335	68.4	55,963	32,282	22,847	48,007
Columbus & Greenville	Jan.	168	144,015	10	150,474	34,874	28,229	4,526	46,115	131,322	87.3	19,152	13,984	8,402	14,334
Delaware & Hudson	Jan.	794	3,848,015	176,614	4,127,354	409,598	934,210	68,222	1,660,531	3,246,712	78.7	880,642	460,369	438,532	137,445
Delaware, Lackawanna & Western	Jan.	968	4,467,530	810,384	5,761,165	669,761	1,107,087	192,266	2,803,274	4,999,288	86.8	761,877	453,715	301,295	534,431
Denver & Rio Grande Western	Jan.	2,413	4,107,576	204,614	4,491,364	448,736	1,008,230	151,797	1,892,309	3,747,881	83.5	743,483	386,222	379,152	539,879
Detroit & Mackinac	Jan.	232	112,940	425	122,256	30,000	17,395	1,636	30,371	89,156	72.9	33,100	14,875	22,034	26,400
Detroit & Toledo Shore Line	Jan.	50	602,889	.....	604,704	63,310	50,012	13,056	179,712	317,226	52.5	287,478	90,759	97,491	132,072
Detroit, Toledo & Ironton	Jan.	464	1,462,804	382	1,494,661	159,185	245,989	23,727	378,605	842,417	56.4	652,244	248,151	330,107	463,730
Duluth, Missabe & Iron Range	Jan.	564	165,890	1,824	203,872	555,917	544,349	7,622	459,237	1,635,863	802.4	—1,431,991	77,439	—1,543,032	—1,641,894
Duluth, South Shore & Atlantic	Jan.	539	358,865	9,128	387,555	90,662	96,857	18,989	186,251	409,507	105.7	—21,952	24,199	—73,426	—74,496
Duluth, Winnipeg & Pacific	Jan.	175	269,000	700	273,000	44,581	46,821	4,044	156,315	257,546	94.3	15,454	23,522	—57,649	—15,251
Elgin, Joliet & Eastern	Jan.	238	2,911,306	3	3,591,904	185,408	538,923	25,720	1,265,216	2,114,019	58.9	1,477,885	601,796	666,278	713,777
Erie	Jan.	2,231	10,438,450	572,545	11,665,331	1,248,320	2,111,493	297,186	5,165,065	9,369,763	80.3	2,295,568	1,096,768	962,920	1,046,004
Florida East Coast	Jan.	571	1,673,209	843,717	2,742,721	413,311	375,544	64,177	940,605	1,985,650	72.4	757,071	194,440	417,507	400,836
Georgia Railroad	Jan.	326	556,792	23,573	621,613	88,221	107,914	27,237	304,968	560,364	90.1	61,249	33,840	44,886	84,848
Georgia & Florida	Jan.	408	219,027	15	221,331	57,355	33,734	14,975	98,277	215,598	97.4	5,733	15,911	—21,432	—49,083
Grand Trunk Western	Jan.	971	3,507,000	164,000	3,925,000	546,967	753,707	61,994	1,808,325	3,319,696	84.6	605,304	244,740	253,851	6,312
Canadian Natl. Lines in New Engl.	Jan.	172	145,000	4,800	161,000	57,361	40,807	2,738	139,523	249,386	154.9	—88,386	22,478	—149,497	—113,256
Great Northern	Jan.	8,317	9,207,457	797,216	11,015,761	2,624,276	3,151,984	320,480	6,233,780	12,962,602	117.7	—1,946,841	1,387,458	—3,491,887	—1,839,019
Green Bay & Western	Jan.	224	295,713	.....	299,607	54,197	30,215	20,148	87,032	205,931	68.7	93,676	38,617	38,723	3,591
Gulf, Mobile & Ohio	Jan.	2,901	4,792,930	399,905	5,639,759	961,905	1,088,489	223,397	1,941,237	4,520,248	80.2	1,119,511	462,417	386,072	567,460
Illinois Central	Jan.	6,543	16,443,374	1,771,984	20,195,689	2,815,697	3,538,555	464,168	7,840,807	15,595,438	77.2	4,600,251	2,375,497	1,982,408	1,865,421
Illinois Terminal	Jan.	460	642,404	94,493	829,112	133,488	143,438	39,047	390,474	750,184	90.48	78,928	65,365	17,139	114,764
Kansas City Southern	Jan.	891	2,955,567	92,793	3,305,975	281,906	353,261	100,431	969,894	1,816,763	55.0	1,489,212	505,000	788,180	871,436
Kansas, Oklahoma & Gulf	Jan.	327	430,961	600	435,648	30,558	30,460	16,923	114,122	210,256	48.3	225,392	97,849	95,151	113,189
Lake Superior & Ishpeming	Jan.	156	50,010	30	52,633	32,564	49,815	1,810	39,915	133,867	254.3	—81,234	24,638	—99,864	—109,171
Lehigh & Hudson River	Jan.	96	199,160	.....	199,296	30,079	28,754	9,088	83,590	160,654	80 6	38,642	14,753	883	12,048
Lehigh & New England	Jan.	191	454,327	.....	458,169	84,880	112,237	11,035	151,880	394,226	86.0	63,943	50,621	57,761	79,096
Lehigh Valley	Jan.	1,252	4,503,164	321,689	5,061,221	565,219	1,014,347	136,827	2,355,817	4,306,276	85.1	754,945	397,332	123,382	331,798
Long Island	Jan.	365	935,958	2,557,185	3,659,565	581,992	736,816	10,676	2,123,713	3,545,805	96.9	113,760	455,799	—625,453	—1,223,764
Louisiana & Arkansas	Jan.	756	1,513,048	69,479	1,655,505	140,308	181,676	53,935	503,176	934,926	56.5	720,579	281,139	346,706	237,543

Table continued on next left-hand page

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1950

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses						Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio			1950	1949
Louisville & Nashville	Jan.	4,780	12,360,814	1,077,131	14,409,461	2,214,263	3,202,943	298,082	6,091,081	12,424,265	86.2	1,985,196	1,608,070	989,913	1,359,779
Maine Central	Jan.	981	1,795,292	124,340	2,040,277	353,339	370,504	21,258	725,798	1,539,716	75.5	500,561	235,516	210,940	308,694
Midland Valley	Jan.	334	183,685	5	186,391	29,856	15,862	4,070	55,957	113,480	60.9	72,911	19,592	42,370	10,190
Minneapolis & St. Louis	Jan.	1,416	1,275,019	7,590	1,321,400	239,342	261,321	111,475	507,269	1,220,000	92.3	101,400	71,759	29,047	122,079
Minneapolis, St. Paul & S. S. Marie	Jan.	3,224	1,863,889	77,277	2,058,548	480,815	494,110	64,805	1,218,178	2,361,721	114.7	—303,173	185,362	—510,046	—524,200
Mississippi Central	Jan.	148	179,111	149	183,198*	40,041	24,592	13,298	52,995	139,910	76.4	43,288	17,413	14,150	12,986
Missouri-Illinois	Jan.	172	364,722	266	367,182	49,706	55,863	7,574	90,658	212,331	57.8	154,851	85,162	69,923	82,313
Missouri-Kansas-Texas Lines	Jan.	3,253	4,850,139	381,864	5,690,309	849,634	842,712	219,124	2,205,798	4,408,759	77.5	1,281,550	543,284	469,220	317,986
Missouri Pacific	Jan.	6,969	13,116,695	886,294	15,406,125	2,167,726	2,913,407	403,347	6,442,040	12,489,279	81.1	2,916,846	945,187	1,413,474	1,512,218
Gulf Coast Lines	Jan.	1,711	3,595,355	76,226	3,819,549	599,003	440,649	71,870	1,142,614	2,380,773	62.3	1,483,776	430,685	672,977	600,146
International-Great Northern	Jan.	1,110	2,451,610	185,339	2,887,594	489,705	434,484	49,224	1,006,731	2,094,028	72.5	793,566	221,668	398,541	210,650
Monongahela	Jan.	170	159,232	505	163,681*	49,080	45,001	968	110,116	209,557	128.0	—45,876	28,138	—122,246	91,699
Montour	Jan.	51	93,242	.....	95,462	12,694	47,765	819	42,756	113,991	119.4	—18,529	28,054	30,036	64,080
Nashville, Chattanooga & St. Louis	Jan.	1,049	2,128,172	153,919	2,556,139	351,599	314,340	109,517	969,087	1,847,070	72.3	709,069	330,900	353,449	275,670
New York Central	Jan.	10,722	40,749,786	10,248,502	56,725,787	6,853,344	12,586,771	970,310	27,115,183	50,550,449	89.1	6,175,338	4,554,264	—85,639	1,693,691
Pittsburgh & Lake Erie	Jan.	221	2,673,062	81,007	2,870,051	312,999	759,095	69,586	1,124,182	2,444,625	85.2	425,426	471,460	556,971	763,159
New York, Chicago & St. Louis	Jan.	2,192.98	9,640,750	124,341	10,061,735	1,519,629	1,695,863	290,411	3,594,171	7,484,050	74.4	2,577,685	1,166,071	1,291,326	1,914,756
New York, New Haven & Hartford	Jan.	1,797	7,080,353	3,860,793	11,933,624	1,394,813	1,741,683	216,864	5,157,509	9,225,851	77.3	2,707,773	845,000	1,022,449	690,918
New York Connecting	Jan.	21	230,840	.....	237,402	53,477	17,714	.....	59,755	133,554	56.3	103,848	61,608	75,247	81,993
New York, Ontario & Western	Jan.	544	474,923	1,258	509,475	100,530	87,980	25,246	281,903	525,889	103.2	—16,414	37,286	—124,244	—99,943
New York, Susquehanna & Western	Jan.	120	368,009	40,467	420,415	41,814	49,641	6,347	168,434	289,938	69.0	130,477	31,199	66,034	33,940
Norfolk & Western	Jan.	2,129	11,002,568	382,977	11,853,486	2,020,606	2,674,318	238,684	4,073,134	9,532,291	80.4	2,321,195	1,763,231	1,485,056	2,659,217
Norfolk Southern	Jan.	683	742,790	646	766,206	149,024	100,637	43,659	246,867	596,168	77.8	170,038	77,639	63,179	58,291
Northern Pacific	Jan.	6,889	7,160,092	501,456	8,449,023	1,849,755	2,429,703	242,553	4,772,327	9,903,207	117.2	—1,454,184	1,147,659	—2,143,579	—1,416,281
Northwestern Pacific	Jan.	331	543,475	5,131	568,249	186,848	84,952	4,050	303,508	593,863	104.5	—25,614	41,035	—119,589	—103,572
Oklahoma City-Ada-Atoka	Jan.	132	78,706	.....	79,659	15,967	4,044	1,578	20,416	45,874	57.6	33,785	12,949	5,435	8,799
Pennsylvania	Jan.	10,118	47,396,646	13,455,116	66,760,866	7,487,668	13,742,383	1,150,062	29,974,586	55,192,826	82.7	11,568,040	5,402,201	4,878,592	4,857,893
Pennsylvania-Reading Seashore Lines	Jan.	386	396,281	119,596	533,826	182,359	245,223	9,815	515,854	986,136	184.7	—452,310	86,869	—651,473	—528,985
Pittsburg & Shawmut	Jan.	97	160,062	.....	160,582	17,297	37,519	2,763	45,797	111,818	69.6	48,764	5,131	42,562	35,171
Pittsburgh & West Virginia	Jan.	132	553,390	.....	572,737	97,731	124,647	41,672	150,082	453,679	79.2	119,058	64,908	92,495	155,810
Reading	Jan.	1,317	7,517,838	534,911	8,494,583	1,074,681	1,925,145	132,902	3,700,014	7,115,823	83.8	1,378,760	727,109	630,183	675,299
Richmond, Fredericksburg & Potomac	Jan.	118	1,153,299	578,339	1,953,644	199,619	301,257	18,115	760,705	1,401,648	71.7	551,996	254,330	201,639	53,570
Rutland	Jan.	407	337,809	34,320	430,363	76,640	82,360	13,228	255,091	445,183	103.4	—14,820	30,099	—67,354	—144,569
Sacramento Northern	Jan.	271	152,961	344	156,570	52,753	16,347	2,552	65,476	144,669	92.4	11,901	12,194	—17,989	—75,422
St. Louis-San Francisco	Jan.	4,645	7,072,587	501,396	8,162,456	1,467,216	1,482,939	239,425	3,314,132	6,893,323	84.5	1,269,133	714,592	574,786	502,980
St. Louis, San Francisco & Texas	Jan.	159	265,457	6,994	290,212	44,733	37,518	15,216	129,359	236,748	81.6	53,464	13,346	—16,382	2,265
St. Louis Southwestern Lines	Jan.	1,569	4,246,123	38,164	4,460,021	488,001	574,988	137,178	1,488,831	2,868,148	64.3	1,591,873	673,638	687,899	733,101
Seaboard Air Line	Jan.	4,146	8,899,538	1,525,648	11,233,568	1,749,447	1,982,904	320,688	4,160,089	8,738,013	77.8	2,495,555	1,092,728	1,076,791	1,095,391
Southern	Jan.	6,347	14,825,793	1,512,119	17,654,181	2,476,241	3,217,213	345,207	6,671,129	13,475,088	76.3	4,179,093	1,886,359	1,921,509	1,224,519
Alabama Great Southern	Jan.	316	1,091,878	114,796	1,308,610	200,589	259,684	26,577	467,324	1,009,856	77.2	298,754	180,343	140,286	129,774
Cinn., New Orleans & Texas Pacific	Jan.	337	2,570,695	231,263	2,968,140	370,850	556,528	55,795	924,233	2,020,775	68.1	947,365	473,779	507,439	491,724
Georgia Southern & Florida	Jan.	397	472,570	94,344	625,731	128,091	39,212	5,821	197,179	391,976	62.6	233,755	54,577	64,999	27,156
New Orleans & Northeastern	Jan.	204	715,345	68,970	831,122	142,941	111,450	16,042	220,795	530,619	63.8	300,503	132,137	111,674	162,821
Southern Pacific	Jan.	8,142	23,769,332	2,988,440	28,841,078	3,961,029	6,657,242	679,602	12,438,426	25,533,645	88.5	3,307,433	2,457,910	173,128	—1,558,687
Texas & New Orleans	Jan.	4,316	8,560,627	620,762	9,815,460	1,678,188	1,553,150	208,017	3,548,078	7,445,684	75.9	2,369,776	748,943	1,103,614	959,039
Spokane International	Jan.	152	92,617	1,168	107,140	50,231	17,560	4,276	49,902	130,926	122.2	—23,786	10,690	—46,552	—56,165
Spokane, Portland & Seattle	Jan.	945	1,471,094	89,085	1,663,641	443,698	238,413	21,048	690,024	1,475,235	88.7	188,406	166,820	—62,400	60,709
Tennessee Central	Jan.	286	371,242	1,148	390,275	63,048	53,893	10,174	128,501	272,778	69.9	117,497	23,429	59,879	5,848
Texas & Northern	Jan.	8	44,767	.....	53,544	2,362	3,453	218	14,174	25,924	48.4	27,620	7,940	10,683	20,894
Texas & Pacific	Jan.	1,846	4,461,419	385,936	5,254,889	756,220	825,649	162,536	1,286,053	3,905,982	74.3	1,348,907	398,910	618,386	597,006
Texas Mexican	Jan.	162	261,421	.....	286,890	63,053	15,761	4,616	58,260	156,657	54.6	130,233	55,150	58,633	50,439
Toledo, Peoria & Western	Jan.	239	405,175	4	467,871	34,431	30,172	35,201	103,135	226,402	55.5	181,469	66,438	82,800	75,417
Union Pacific	Jan.	9,721	24,565,397	2,262,866	29,571,742	3,785,279	6,265,656	840,726	11,748,076	24,469,355	82.7	5,102,387	3,371,587	601,685	—1,946,516
Utah	Jan.	111	117,480	.....	117,511	21,824	48,190	800	58,712	137,165	116.7	—19,654	12,140	—21,776	—12,920
Virginian	Jan.	661	2,079,117	2,604	2,129,030	305,807	479,955	38,251	536,850	1,436,181	67.5	692,849	366,200	482,047	872,698
Wabash	Jan.	2,393	6,730,595	384,633	7,607,437	1,001,784	1,137,256	250,759	3,384,605	6,097,404	80.2	1,510,033	639,965	434,519	599,854
Ann Arbor	Jan.	294	656,247	1,162	667,085	68,268	110,991	23,998	356,124	575,805	86.3	91,280	—28,529	99,875	57,742
Western Maryland	Jan.	837	2,496,783	7,131	2,632,805	352,459	591,008	71,224	929,112	2,087,268	79.3	545,537	283,000	373,325	730,429
Western Pacific	Jan.	1,195	2,802,707	189,726	3,053,940	425,638	530,524	131,113	1,130,960	2,389,413	78.2	664,527	311,605	295,539	—157,328
Wisconsin Central	Jan.	1,051	1,772,610	32,259	1,908,602	246,093	330,102	59,205	892,142	1,614,075	84.6	294,527	131,477	14,719	16,027

*In the *Railway Age* of February 18, page 80, total operating revenues of the Mississippi Central for the calendar year 1949 were shown as $22,608,858. The figure should have been $2,260,858.

Table of Freight Operating Statistics appears on next left-hand page

THE *Nalco* SYSTEM OF WEED CONTROL

A NEW, SAFE METHOD OF SECURING COMPLETE WEED CONTROL

- Nalco H-170 combines "contact" or top-killing action with translocation or root-killing action.
- Extremely rapid penetration and translocation in the plant.
- Extensive root kill retards regrowth.
- Low volatility eliminates fire hazard.
- Non-conductor—will not disrupt track signal circuits.
- Safe to use where livestock may be grazing.
- Completely insoluble in water—will not contaminate water supplies. Rainfall after application does not reduce effectiveness.
- No mixing required.

NALCO H-170 Weed Killer is a product of nearly five years of laboratory research, tests and field trials on railroad right-of-way. Its combined properties assure a complete top kill of all succulent vegetation, plus extensive root kill on many of the hardiest weed species. H-170 can be applied with any type of sprayer, and is used directly from the drums without mixing or dilution.

Maintenance men are enthusiastic about H-170, not only because of the thorough weed killing, but also because it does not imperil livestock and creates no fire hazard—either in storage or when being applied.

Average right-of-way dosage of Nalco H-170 is one gallon per 1,500 square feet. Where weed growth is high, slightly greater dosage is recommended. H-170 has effectively killed growths up to 30 inches high.

Full information on H-170 is available from your Nalco Representative, or direct from Nalco.

NATIONAL ALUMINATE CORPORATION

6200 West 66th Place • Chicago 38, Illinois

Canadian inquiries should be addressed to Alchem, Limited
Burlington, Ontario, Canada

THE *Nalco* SYSTEM • Serving Railroads through Practical Applied Science

Freight Operating Statistics of Large Steam Railways — Selected

Region, Road and Year		Miles of road operated	Locomotive-Miles: Train-miles	Locomotive-Miles: Principal and helper	Locomotive-Miles: Light	Car-Miles: Loaded (*thousands*)	Car-Miles: Per cent loaded	Ton-miles (*thousands*): Gross excl.locos. & tenders	Ton-miles (*thousands*): Net rev. and non-rev.	Road-locos. on lines: Serviceable: Unstored	Road-locos. on lines: Serviceable: Stored	Road-locos. on lines: B.O.	Road-locos. on lines: Per cent B.O.
New Eng. Region	Boston & Maine 1949	1,700	280,221	289,315	13,030	10,015	65.0	648,758	264,428	90	5	11	10.4
	1948	1,746	320,563	333,549	16,522	11,487	64.2	763,949	310,641	95	4	9	8.3
	N. Y., N. H. & Htfd 1949	1,773	274,168	275,122	35,022	10,872	65.2	686,674	300,262	116	10	10	7.4
	1948	1,774	336,264	338,724	27,590	12,869	68.7	794,596	354,935	141	14	20	11.4
Great Lakes Region	Delaware & Hudson 1949	794	241,278	293,556	32,342	10,337	64.0	742,479	375,325	124	56	17	8.6
	1948	794	282,566	345,824	37,646	12,188	65.6	877,927	450,358	128	36	22	11.8
	Del., Lack. & Western 1949	966	249,408	278,495	26,512	10,973	65.1	733,413	316,423	75	24	30	23.3
	1948	967	291,547	329,844	36,244	12,667	68.5	845,485	389,001	101	31	15	10.2
	Erie 1949	2,231	578,971	596,315	42,361	29,858	65.0	1,924,942	783,441	164	55	57	20.7
	1948	2,229	638,767	669,290	46,273	33,158	66.0	2,170,185	920,789	218	68	63	18.1
	Grand Trunk Western 1949	971	234,141	240,820	2,543	7,415	63.0	496,453	204,940	55	..	12	17.9
	1948	971	251,178	258,706	2,220	7,935	63.5	530,590	222,671	61	..	8	11.6
	Lehigh Valley 1949	1,239	229,434	242,101	23,467	10,597	64 8	732,559	331,613	52	6	33	36.3
	1948	1,239	288,172	306,778	31,746	12,634	68.1	864,648	413,699	81	13	18	16.1
	New York Central 1949	10,680	2,997,020	3,164,028	187,677	101,954	58.8	7,278,881	3,193,186	969	59	424	29.2
	1948	10,690	3,399,408	3,622,531	238,908	114,506	60.1	8,215,257	3,721,114	1,097	110	341	22.2
	New York, Chic. & St.L. 1949	2,162	719,027	734,751	8,648	26,254	60.7	1,882,221	793,269	186	23	58	21.7
	1948	2,161	822,361	843,428	9,324	29,228	65.1	2,021,942	926,637	215	8	36	13.9
	Pitts. & Lake Erie 1949	221	81,454	82,686	20	2,868	63.7	252,074	149,641	24	2	22	45.8
	1948	221	99,948	101,458	....	3,937	62.3	339,085	195,701	31	2	13	28.3
	Wabash 1949	2,381	585,713	595,589	9,989	20,376	66.1	1,324,537	544,289	140	12	59	28.0
	1948	2,381	632,721	647,190	15,001	21,378	69.0	1,376,822	592,698	155	8	39	19.3
Central Eastern Region	Baltimore & Ohio 1949	6,086	1,699,641	2,027,612	230,617	57,462	59.0	4,439,906	2,107,471	679	77	291	27.8
	1948	6,086	1,881,691	2,282,569	252,198	63,435	60.8	4,823,766	2,329,322	821	72	222	19.9
	Central of New Jersey 1949	411	65,628	65,700	5,261	2,391	63.8	177,702	90,576	33	3	9	20.0
	1948	415	79,650	79,866	5,090	2,934	67.7	219,329	115,359	41	4	15	25 0
	Central of Pennsylvania 1949	212	60,353	67,718	11,292	2,359	63.6	178,560	92,762	30	1	16	34.0
	1948	212	80,462	87,579	12,847	2,841	67.5	213,294	114,323	44	0	11	20.0
	Chicago & Eastern Ill. 1949	906	122,558	123,552	2,687	3,991	66.8	267,432	127,125	38	2	3	7.0
	1948	909	148,861	149,414	4,282	4,927	66.9	333,788	164,250	39	12	17	25.0
	Elgin, Joliet & Eastern 1949	238	88,277	89,155	10	3,075	63.1	241,354	127,577	37	..	3	7.5
	1948	238	101,545	102,142	....	3,684	65.5	285,194	153,433	37	6	1	2.3
	Pennsylvania System 1949	10,009	2,815,885	3,090,277	340,774	109,774	60.3	8,010,311	3,655,964	1,206	60	471	27.1
	1948	10,042	3,497,178	3,903,318	467,453	131,458	61.9	9,620,179	4,609,240	1,644	76	258	13.0
	Reading 1949	1,320	371,818	386,987	28,708	12,948	60.2	999,948	518,668	168	21	39	17.1
	1948	1,324	416,370	435,792	32,709	15,110	63.4	1,198,382	649,832	184	23	33	13.8
	Western Maryland 1949	837	157,455	184,951	24,127	5,282	58.9	446,165	238,818	129	34	14	7.9
	1948	837	194,484	241,421	39,257	7,125	60.0	596,753	326,498	150	9	14	8.1
Pocahontas Region	Chesapeake & Ohio 1949	5,044	1,270,357	1,358,549	56,938	47,144	53.3	4,073,994	2,122,159	537	48	151	20.5
	1948	5,026	1,503,740	1,616,065	71,238	59,739	56.0	5,099,629	2,775,198	628	32	73	10.0
	Norfolk & Western 1949	2,107	627,436	666,289	50,470	26,490	56.4	2,301.119	1,212,515	244	25	53	16.5
	1948	2,107	776,726	826,619	62,374	33,869	57.2	3,019,988	1,643,719	266	32	15	4.8
Southern Region	Atlantic Coast Line 1949	5,507	855,654	867,171	14,227	22,357	57.5	1,605,973	683,660	339	20	81	18.4
	1948	5,550	967,825	988,394	15.497	23.659	59.7	1,663,077	718,315	392	1	80	16.9
	Central of Georgia 1949	1,783	254,766	257,574	3,947	6,614	67.8	434,649	194.501	100	5	11	9.5
	1948	1,783	277,138	280,203	4,678	6,911	69.5	459,542	215,414	101	2	8	7.2
	Gulf, Mobile & Ohio 1949	2,854	325,072	325,072	107	14,034	68.9	923,764	421,649	62	5	3	4.3
	1948	2,847	349,154	349,396	810	15,313	71.1	992,917	466,321	104	17	9	6.9
	Illinois Central 1949	6.543	1,460,566	1,466,334	51,395	47,466	60.3	3,548,453	1,616,122	551	6	94	14.4
	1948	6,552	1,474,541	1,477,225	51,730	50,573	62.5	3,574,708	1,667,572	564	19	72	11.0
	Louisville & Nashville 1949	4,770	1,225,009	1,313,715	33,268	31,811	60.9	2,305,771	1,138,498	346	28	82	18.0
	1948	4,750	1,400,047	1,500,773	37,413	34,519	62.1	2,516,399	1,268,306	402	25	57	11.8
	Nash., Chatt. & St. Louis 1949	1,049	191,344	193,789	3,426	5,695	69.1	362,794	161,301	57	2	1	1.7
	1948	1,051	264,090	271,849	7,453	6,168	70.6	401,185	189,289	75	..	5	6.3
	Seaboard Air Line 1949	4,136	738,160	758,656	7,485	22,208	60.7	1,599,852	688,608	276	17	28	8.7
	1948	4,142	799,232	842,956	12,894	23,914	63.8	1,682,699	747,452	278	6	41	12.6
	Southern 1949	6,166	1,232,647	1,240,563	12,157	37,616	63.1	2,504,080	1,062,289	366	53	141	25.2
	1948	6,382	1,537,990	1,557,908	28,559	40,010	64.2	2,672,407	1,163,361	527	18	117	17.7
Northwestern Region	Chicago & North Western 1949	8,072	853,444	868,692	23,909	27,079	62.2	1,908,407	812,370	304	29	133	28.5
	1948	8,073	988,340	1,036,879	27,580	29,355	62.6	2,079,014	910,005	345	21	107	22.6
	Chicago Great Western 1949	1,445	156,239	157,600	8,357	8,167	64.4	541,553	224,063	44	..	5	10.2
	1948	1,445	188,866	191,220	11,370	8,643	65.9	570,653	244,568	53	..	18	25.4
	Chic., Milw., St. P. & Pac. 1949	10,663	1,215,697	1,264,144	47,344	40,271	62.0	2,790,032	1,206,796	425	83	78	13.3
	1948	10,663	1,475,188	1,538,767	58.236	45,488	62.6	3,194,636	1,430,630	477	34	79	13.4
	Chic., St. P., Minn. & Omaha 1949	1,606	194,457	202,823	10.666	5,078	64.8	355,196	159,435	69	..	40	36.7
	1948	1,606	221,147	236,048	14,469	5,547	67.0	386,992	176,033	80	1	34	29.6
	Duluth, Missabe & Iron Range 1949	564	28,872	29,040	501	449	53.7	33,016	14,405	25	15	24	37.5
	1948	575	41,204	41,288	751	971	51.7	81,086	42,041	20	16	18	33.3
	Great Northern 1949	8,221	940,658	939,753	49,025	32,831	68.0	2,222,886	1,004,415	316	76	48	10.9
	1948	8,240	1,035,473	1,034,145	48,931	34,626	64.3	2,435,748	1,095,646	352	67	54	11.4
	Minneap., St.P. & S. Ste. M. 1949	4,179	369,325	374,216	4,220	11,156	65.0	734,711	330,607	109	4	17	13.1
	1948	4,179	414,406	422,926	7,845	12,157	63.9	813,467	365,296	125	..	18	12.6
	Northern Pacific 1949	6,593	832,136	871,334	53,973	27,351	64.1	1,982,915	891,099	320	20	69	16.9
	1948	6,593	798,525	843,658	50,006	29,048	67.0	2,007,229	935,535	334	36	53	12.5
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F. 1949	13,096	2,312,573	2,434,976	84,200	89,030	65.7	5,927,127	2,261,955	614	172	109	12.2
	1948	13,081	2,839,319	3,014,807	126,459	102,889	64.9	6,977,445	2,762,415	710	106	130	13.7
	Chic., Burl. & Quincy 1949	8,839	1,139,209	1,158,123	42,503	42,300	63.1	2,909,130	1,263,685	400	31	146	25.3
	1948	8,679	1,241,936	1,266,249	44,949	48,036	60.7	3,450,731	1,532,976	392	63	87	16.1
	Chic., Rock I. & Pac. 1949	7,597	1,044,571	1,083,762	16,111	34,942	59.2	2,438,577	1,007,416	236	22	98	27.5
	1948	7,600	1,122,267	1,158,006	12,853	35,443	59.7	2,508,156	1,067,651	288	27	70	18.2
	Denver & R. G. Wn. 1949	2,413	341,667	368,436	46,542	12,294	73.0	827,579	408,417	129	20	46	23.6
	1948	2,443	376,405	422,128	59,972	12,728	73.5	863,859	434,974	144	27	45	20.8
	Southern Pacific 1949	8,067	1,885,524	2,029,229	342,818	77,763	65.5	5,211,055	2,136,796	736	1	184	20.0
	1948	8,090	1,922,828	2,108,313	353,373	77,649	67.3	5,197,211	2,204,391	742	14	169	18.3
	Union Pacific 1949	9,721	2,135,368	2,215,982	159,923	84,246	64.8	5,691,723	2,495,502	578	75	128	16.4
	1948	9,751	2,317,845	2,403,907	171,884	89,747	65.1	6,141,121	2,758,895	554	106	153	18.8
	Western Pacific 1949	1,192	201,417	218,683	20,159	9,073	74.4	573,063	261,688	70	7	28	25.7
	1948	1,192	215,439	235,683	23,648	9,387	75.2	582,342	264,274	62	44	18	14.5
Southwestern Region	International-Gt. Northern* 1949	1,110	185,530	186,017	1,402	5,904	61.9	446,372	202,527	60	7	2	2.9
	1948	1,110	206,019	206,586	1,023	6,532	64.2	462,844	201,997	62	..	9	12.7
	Kansas City Southern 1949	886	165,593	165,666	640	7,701	65.1	536,418	243,793	33	14	9	16.1
	1948	885	198,180	200,222	959	9,391	66.6	665,040	320,344	43	6	5	9.3
	Mo.-Kans.-Texas Lines 1949	3,241	402,002	409,866	6,535	13,217	63.2	885,285	379,747	91	3	44	31.9
	1948	3,241	633,970	645,658	9,041	18,776	58.5	1,349,344	587,551	129	..	25	16.2
	Missouri Pacific* 1949	6,951	1,276,509	1,298,021	22,368	42,686	64.3	2,954,132	1,305,097	354	13	69	15.8
	1948	6,981	1,485,244	1,525,225	28,934	47,836	61.4	3,413,605	1,481,053	400	..	53	11.7
	Texas & Pacific 1949	1,844	343,135	343,135	11,326	12,558	61.8	861,694	332,317	115	..	5	4.2
	1948	1,852	461,717	461,717	15,373	15,311	62.6	1,053,029	436,265	102	4	10	8.6
	St. Louis-San Francisco 1949	4,615	697,826	706,411	7,651	21,165	61.0	1,492,335	639,326	206	71	50	15.3
	1948	4,615	823,862	839,381	9,124	22,482	62.2	1,599,098	697,206	299	12	40	11.4
	St. Louis Southw. Lines 1949	1,562	345,198	347,226	4,699	13,007	67.3	806,728	360,619	74	17	16	15.0
	1948	1,562	408,459	410,315	5,551	15,147	68.9	967,187	432,345	86	8	10	9.6
	Texas & New Orleans 1949	4,314	803,905	803,905	25,670	25,089	65.1	1,721,660	736,011	231	..	43	15.7
	1948	4,314	915,659	915,659	19,190	25,757	66.3	1,775,259	783,023	216	..	31	12.6

* Report of trustee or trustees.

Items for the Month of December 1949 Compared with December 1948

Region	Road and Year	Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m. per train-hr. excl. locos. and tenders	G.t.m. per train-mi. excl. locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Train miles per train-hour	Mi. per loco. per day
New Eng. Region	Boston & Maine 1949	2,208	8,188	10,396	3.2	37,034	2,319	945	26.4	781	45.7	5,018	16.0	93.7
	1948	1,615	10,218	11,833	2.7	38,819	2,389	971	27.0	819	47.2	5,739	16.3	110.8
	N. Y., N. H. & Htfd 1949	2,249	15,829	18,078	2.4	35,970	2,511	1,098	27.6	508	28.2	5,463	14.4	85.3
	1948	1,682	17,609	19,291	1.3	34,542	2,366	1,057	27.6	562	29.7	6,454	14.6	73.8
Great Lakes Region	Delaware & Hudson 1949	5,109	4,925	10,034	5.0	54,703	3,092	1,563	36.3	1,181	50.8	15,248	17.8	55.7
	1948	3,813	5,328	9,141	4.0	56,458	3,123	1,602	37.0	1,533	63.3	18,297	18.2	70.9
	Del., Lack. & Western 1949	8,219	7,529	15,748	11.2	44,468	2,996	1,292	28.8	631	33.6	10,566	15.1	81.7
	1948	5,933	10,842	16,775	4.4	44,617	2,952	1,358	30.7	793	37.7	12,977	15.4	87.2
	Erie 1949	12,108	16,185	28,293	8.5	55,127	3,348	1,362	26.2	886	51.9	11,328	16.6	83.3
	1948	9,346	17,679	27,025	5.7	55,734	3,419	1,451	27.8	1,067	58.3	13,326	16.4	71.7
	Grand Trunk Western 1949	4,638	8,198	12,836	8.6	43,617	2,136	882	27.6	506	29.0	6,808	20.6	128.0
	1948	5,092	8,021	13,113	8.6	42,683	2,125	892	28.1	554	31.1	7,397	20.2	127.4
	Lehigh Valley 1949	9,182	8,517	17,699	10.6	58,567	3,253	1,472	31.3	599	29.6	8,634	18.3	101.5
	1948	8,853	11,556	20,409	10.8	56,799	3,061	1,465	32.7	676	30.3	10,771	18.9	99.4
	New York Central 1949	71,112	81,964	153,076	9.1	40,868	2,471	1,084	31.3	644	35.0	9,645	16.8	81.9
	1948	66,039	93,837	159,876	3.8	39,168	2,454	1,111	32.5	745	38.1	11,229	16.2	89.8
	New York, Chic. & St.L. 1949	10,512	14,361	24,873	3.8	45,983	2,650	1,117	30.2	1,090	59.4	11,835	17.6	96.3
	1948	6,873	16,514	23,387	2.6	42,640	2,485	1,139	31.7	1,212	58.7	13,832	17.3	113.8
	Pitts. & Lake Erie 1949	5,824	8,454	14,278	13.9	44,639	3,101	1,841	52.2	352	10.6	21,842	14.4	62.2
	1948	5,402	11,867	17,269	5.7	50,362	3,401	1,963	49.7	382	12.3	28,565	14.8	73.1
	Wabash 1949	7,993	12,254	20,247	2.9	48,417	2,292	942	26.7	880	49.9	7,374	21.4	97.1
	1948	7,342	12,091	19,433	3.1	44,982	2,197	946	27.7	984	51.4	8,030	20.7	111.0
Central Eastern Region	Baltimore & Ohio 1949	53,546	34,472	88,018	14.2	34,810	2,681	1,273	36.7	774	35.8	11,170	13.3	70.7
	1948	51,746	39,093	90,839	7.0	33,900	2,611	1,261	36.7	844	37.8	12,346	13.2	76.4
	Central of New Jersey 1949	941	7,579	8,520	9.5	38,472	2,792	1,423	37.9	316	13.1	7,109	14.2	79.7
	1948	814	10,137	10,951	4.3	40,222	2,864	1,506	39.3	356	13.4	8,967	14.6	71.1
	Central of Pennsylvania 1949	2,401	2,870	5,271	14.3	43,722	3,114	1,618	39.3	581	23.2	14,115	14.8	61.6
	1948	1,312	3,457	4,769	5.6	37,825	2,852	1,529	40.2	830	30.6	17,395	14.3	69.3
	Chicago & Eastern Ill 1949	2,645	3,341	5,986	6.9	37,773	2,186	1,039	31.9	705	33.2	4,526	17.3	97.6
	1948	2,466	2,673	5,139	5.5	37,862	2,252	1,108	33.3	981	44.0	5,829	16.9	77.8
	Elgin, Joliet & Eastern 1949	7,433	10,009	17,442	2.8	22,027	2,836	1,499	41.5	255	9.7	17,292	8.1	96.5
	1948	6,311	12,456	18,767	2.0	19,252	2,998	1,613	41.6	273	10.0	20,796	6.9	110.0
	Pennsylvania System 1949	124,322	98,609	222,931	18.2	42,852	2,932	1,338	33.3	513	25.6	11,783	15.1	68.0
	1948	133.854	111.660	245,514	8.7	38,260	2,837	1,359	35.1	607	28.0	14,806	13.9	77.1
	Reading 1949	15,963	18,006	33,969	9.0	34,518	2,690	1,395	40.1	491	20.4	12,675	12.8	65.3
	1948	13,101	19,555	32,656	5.6	36,194	2,882	1,563	43.0	646	23.7	15,833	12.6	72.2
	Western Maryland 1949	6,432	2,518	8,950	1.6	39,213	2,879	1,541	45.2	891	33.5	9,204	13.8	40.9
	1948	5,445	3,091	8,536	1.4	33,816	3,115	1,704	45.8	1,243	44.8	12,583	11.0	57.9
Pocahontas Region	Chesapeake & Ohio 1949	60,165	20,372	80,537	6.9	53,835	3,241	1,688	45.0	873	36.4	13,572	16.8	66.6
	1948	57,006	21,935	78,941	1.8	52,768	3,433	1,868	46.5	1,170	45.0	17,812	15.6	81.3
	Norfolk & Western 1949	38,841	5,323	44,164	4.0	60,765	3,718	1,959	45.8	967	37.5	18,564	16.6	76.1
	1948	37,206	6,160	43,366	4.5	63,336	3,946	2,148	48.5	1,246	44.9	25,165	16.3	97.1
Southern Region	Atlantic Coast Line 1949	15,118	15,484	30,602	5.1	29,402	1,886	803	30.6	742	42.2	4.005	15.7	70.9
	1948	11,219	16,424	27,643	3.5	27,761	1,725	745	30.4	841	46.2	4,175	16.2	76.5
	Central of Georgia 1949	4,011	4,099	8,110	9.0	30,442	1,709	765	29.4	766	38.4	3,519	17.8	79.1
	1948	3,004	5,183	8.187	7.2	29,969	1,662	779	31.2	827	38.2	3,897	18.1	87.1
	Gulf, Mobile & Ohio 1949	5,596	8,823	14,419	2.8	56,840	2,849	1,300	30.0	918	44.3	4,766	20.0	134.6
	1948	3,859	10,000	13,859	1.8	54,095	2,854	1,340	30.5	1,035	47.8	5,284	19.0	91.4
	Illinois Central 1949	27,679	24,007	51,686	1.5	43,064	2,463	1,122	34.0	1,018	49.6	7,968	17.7	80.3
	1948	21,162	29,658	50,820	1.8	43,693	2,454	1,145	33.0	999	48.5	8,210	18.0	80.1
	Louisville & Nashville 1949	41,713	12,360	54,073	9.7	29,243	1,889	933	35.8	720	33.1	7,699	15.5	100.0
	1948	35,855	13,445	49,300	2.6	28,596	1,802	908	36.7	844	37.0	8,613	15.9	107.6
	Nash., Chatt. & St. Louis 1949	3,632	3,795	7,427	10.0	37,564	1,909	849	28.3	705	36.0	4,960	19.8	113.6
	1948	1,434	5,257	6,691	2.7	31,277	1,529	721	30.7	985	45.4	5,810	20.6	116.5
	Seaboard Air Line 1949	11,842	13,491	25,333	3.9	37,919	2,214	953	31.0	903	48.0	5,371	17.5	87.1
	1948	8,734	13,419	22,153	1.2	37,492	2,151	956	31.3	1,066	53.4	5,821	17.8	94.9
	Southern 1949	17,162	27,812	44,974	4.1	34,771	2,045	868	28.2	760	42.6	5,556	17.1	73.2
	1948	15,171	29,994	45,165	4.8	29,658	1,755	764	29.1	829	44.5	5,880	17.1	81.1
Northwestern Region	Chicago & North Western 1949	23,335	28,945	52,280	3.1	36,079	2,349	1,000	30.0	501	26.9	3,246	16.1	68.2
	1948	22,910	27,980	50,890	3.2	33,007	2,200	963	31.0	564	29.1	3,636	15.7	79.6
	Chicago Great Western 1949	1,768	4,863	6,631	3.8	64,013	3,476	1,438	27.4	1,100	62.2	5,002	18.5	116.5
	1948	1,425	4,836	6,261	4.3	48,063	3,023	1,295	28.3	1,294	69.4	5,460	15.9	97.5
	Chic., Milw., St. P. & Pac. 1949	34,002	27,467	61,469	1.9	37,440	2,314	1,001	30.0	625	33.6	3,651	16.3	77.7
	1948	27,964	35,658	63,622	1.4	34,221	2,185	979	31.5	766	38.9	4,328	15.8	94.4
	Chic., St. P., Minn. & Omaha 1949	878	7,372	8,250	3.3	24,996	1,901	853	31.4	605	29.7	3,202	13.7	70.7
	1948	1,145	6,768	7,913	3.9	23,383	1,821	828	31.7	709	33.4	3,536	13.4	76.1
	Duluth, Missabe & Iron Range 1949	14,483	685	15,168	3.9	16,353	1,208	527	32.1	31	1.8	824	14.3	18.4
	1948	14,357	477	14,834	4.1	28,795	2,045	1,060	43.3	90	4.0	2,359	14.6	26.3
	Great Northern 1949	25,684	15,854	41,538	3.3	39,648	2,379	1,075	30.6	744	35.7	3,941	16.8	75.0
	1948	23,097	20,801	43,898	3.4	37,232	2,369	1,066	31.6	848	41.7	4,289	15.8	79.2
	Minneap., St.P. & S. Ste. M. 1949	6,709	7,046	13,755	6.4	37,363	2,000	900	29.6	780	40.5	2,552	18.8	107.1
	1948	6,699	8,995	15,694	4.9	34,567	1,971	885	30.0	810	42.2	2,820	17.6	111.6
	Northern Pacific 1949	21,493	12,146	33,639	6.9	40,994	2,429	1,092	32.6	816	39.1	4,360	17.2	80.7
	1948	19,806	19,176	38,982	5.3	40,372	2,527	1,178	32.2	831	38.5	4,577	16.1	74.5
Central Western Region	Atch., Top. & S. Fe (incl. 1949	52,446	29,469	81,915	3.8	53,211	2,578	984	25.4	906	54.3	5,572	20.8	96.1
	G. C. & S. F. and P. & S. F. 1948	46,844	30,291	77,135	5.0	50,182	2,470	978	26.8	1,121	64.3	6,812	20.4	112.8
	Chic., Burl. & Quincy 1949	19,406	21,851	41,257	4.8	48,797	2,563	1,113	29.9	950	50.4	4,612	19.1	70.7
	1948	17,367	23,425	40,792	3.2	50,389	2,789	1,239	31.9	1,181	61.0	5,698	18.1	83.5
	Chic., Rock I. & Pac. 1949	13,286	21,813	35,099	4.7	42,994	2,342	968	28.8	955	56.0	4,278	18.4	104.1
	1948	12,578	24,639	37,217	4.9	40,338	2,241	954	30.1	923	51.3	4,532	18.1	103.2
	Denver & R. G. Wn. 1949	8,866	5,476	14,342	4.1	43,522	2,435	1,202	33.2	886	36.5	5,460	18.0	72.7
	1948	7,597	7,179	14,776	3.9	36,991	2,315	1,166	34.2	929	37.0	5,744	16.1	76.7
	Southern Pacific 1949	28,527	38,791	67,318	3.9	46,189	2,802	1,149	27.5	1,024	56.9	8,545	16.7	87.4
	1948	26,910	35,802	62,712	3.2	43,787	2,733	1,159	28.4	1,130	59.2	8,790	16.2	91.1
	Union Pacific 1949	29,031	29,658	58,689	3.7	60,397	2,703	1,185	29.6	1,358	70.8	8,281	22.7	99.8
	1948	26,946	33,062	60,008	2.9	56,561	2,687	1,207	30.7	1,474	73.7	9,127	21.3	107.0
	Western Pacific 1949	2,417	3,587	6,004	11.5	62,384	2,854	1,303	28.8	1,426	66.5	7,082	21.9	71.4
	1948	2,269	2,407	4,676	8.2	55,705	2,716	1,233	28.2	1,831	86.4	7,152	20.6	70.1
Southwestern Region	International-Gt. Northern* 1949	937	6,912	7,849	1.6	46,962	2,426	1,101	34.3	837	39.4	5,886	19.5	89.0
	1948	438	6,765	7,203	1.0	41,362	2,266	1,033	32.3	923	44.5	6,132	18.4	99.2
	Kansas City Southern 1949	1,696	5,338	7,034	4.8	61,664	3,251	1,478	31.7	1,095	53.2	8,876	19.9	105.8
	1948	1,469	6,222	7,691	3.8	65,676	3,386	1,631	34.1	1,422	62.6	11,676	19.6	126.9
	Mo.-Kans.-Texas Lines 1949	3,128	8,408	11,536	3.1	41,498	2,212	949	28.7	1,031	56.8	3,780	18.8	99.0
	1948	2,515	7,899	10,414	.6	39,683	2,149	936	31.3	1,741	95.2	5,848	18.6	144.9
	Missouri Pacific* 1949	21,921	15,938	37,859	1.7	46,539	2,321	1,026	30.6	1,107	56.4	6,057	20.1	101.7
	1948	15,580	22,104	37,684	1.7	44,594	2,311	1,003	31.0	1,222	64.3	6,844	19.4	114.2
	Texas & Pacific 1949	2,627	6,839	9,466	5.5	50,274	2,518	971	26.5	1,172	71.7	5,813	20.0	100.2
	1948	2,351	6,972	9,323	2.7	43,750	2,295	951	28.5	1,431	80.3	7,599	19.2	139.2
	St. Louis-San Francisco 1949	12,372	11,262	23,634	3.1	37,331	2,149	921	30.2	901	48.9	4,469	17.5	78.0
	1948	9.239	13,198	22,437	2.0	37,856	1,949	850	31.0	1,058	54.8	4,873	19.5	84.0
	St. Louis Southw. Lines 1949	1,999	4.510	6.509	1.8	45.284	2.340	1,046	27.7	1,794	96.2	7,447	19.4	113.8
	1948	1,732	5,421	7,153	1.9	42,969	2.370	1,059	28.5	1,911	97.1	8,929	18.1	137.9
	Texas & New Orleans 1949	5.332	15,668	21,000	3.9	40,785	2,160	923	29.3	1.088	57.0	5.504	19.0	104.0
	1948	4.644	16,728	21,372	3.2	37,793	1,957	863	30.4	1,209	60.0	5,855	19.5	128.8

* Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

GENERAL NEWS

Railroads Win

(Continued from page 82)

more general contentions of the department by noting that they were similar to department presentations which were before the commission in the *Western Traffic Association* case; and which were there found "lacking in merit." Also, the commission affirmed its hearing examiner's ruling which thwarted the department's undertaking to go into "past activities of the A.A.R., its board of directors, and other matters wholly foreign to the subjects of the agreement."

"General approval of the A.A.R.," the commission said, "is not requested by this application and aside from its activities in the matters enumerated in and restricted by the agreement, immunity of the association's functions, operations or activities is not sought herein. To the extent that A.A.R., through its committees herein referred to, serves as an agent for the carriers, its functions is analogous to that of the rate committees composed of employees of the rate bureaus dealt with in *Western Traffic Assn. —Agreements* . . . Applications propose to use the general committee and board of directors . . . but final action will, under the agreement, be that of applicants and not that of A.A.R."

The conditions imposed by the commission in connection with its approval of the agreement will require a rewriting of some provisions, as proposed by the A.A.R. in the light of suggestions made by the National Industrial Traffic League. One of the changes will add provisions stipulating that the general committee shall designate a special standing committee to consult with "interested shipper organizations, including the National Industrial Traffic League," and to receive suggestions from individual shippers, and to make recommendations to the general committee with respect to changes in demurrage or storage rates and charges, or rules and regulations pertaining thereto. Also, there will be added provisions stipulating that the general committee "shall consider" and handle, "in accordance with the procedures provided for in this agreement," proposals for changes in demurrage or storage rates which are submitted by interested shipper organizations, including the N.I.T. League.

Another of the required modifications will involve a rewriting of the agreement's Article V, which requires the A.A.R. board of directors to submit a proposal to subscriber vote, if such submission is requested, in writing, by subscribers owning not less than 20 per cent of the revenue freight cars owned by all subscribers. The rewriting will make it clear that the subscriber-vote device cannot be used to by-pass the agreement's normal procedures, i.e., that it may be employed only after the proposal involved has taken the regular course, but has encountered a turn-down by the general committee and a refusal by the board to submit it to subscriber vote.

C. McD. Davis (right), president of the Atlantic Coast Line and of its subsidiary Atlantic Land & Improvement Co., receives from C. H. Coulter, Florida state forester, a tree farm certicate covering 76,000 acres of south Florida forest land in Hendry and Collier counties. The new "farm" is being scientifically managed, selectively logged, and protected by the land company

The final condition will add to the publication-of-notice provisions a requirement that notice shall be given of the "final disposition" made of any proposal. The original provisions contemplated that the only notice of such proposals would be that given prior to their consideration. The notices are to be given by publication "in a recognized traffic journal of national circulation."

Waybill Studies

Four additional waybill studies have been issued by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. They are: Statement No. 504, Traffic and Revenue, in the Products of Mines Group, by Commodity Class, Territorial Movement, Length of Haul (Short Line), and Type of Rate—All Terminations in 1948; Statement No. 505, Distribution of Freight Traffic and Revenue Averages for Commodity Groups and Selected Classes by Rate Territories—Terminations in Second Quarter of 1949; Statement No. 507, Distribution of Freight Traffic and Revenue Averages by Commodity Classes—Terminations in 1947; and Statement No. 508, Distribution of Freight Traffic and Revenue Averages by Commodity Classes—Terminations in Third Quarter 1949, 1948 and 1947.

February Employment

Railroad employment decreased 2.18 per cent—from 1,148,317 to 1,123,272—from mid-January to mid-February, and the mid-February total was 8.73 per cent below that of February, 1949, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index of employment, based on the 1935-1939 average as 100, was 112.8 for February, compared with 117 in January, and 123.6 in February, 1949.

February employment was below that of the previous month in all groups, the range of the decreases being from 3.47 per cent in the train and engine service group to 0.29 per cent in the group embracing executives, officials, and staff assistants. As compared with February, 1949, there were also decreases in all groups. They ranged from 14.39 per cent in the maintenance of way and structures group to 2.18 per cent in the group embracing executives, officials, and staff assistants.

January Truck Traffic

Motor carriers reporting to American Trucking Associations transported in January 3,147,259 tons of freight, an increase of 1.9 per cent above the previous month's total of 3,088,151 tons, and 12.3 per cent more than the 2,802,980 tons hauled in January, 1949. The figures, according to A.T.A., are based on comparable reports from 312 truckers in 44 states.

$200 Million Savings Possible, Great Lakes Shippers Told

Shippers and receivers of railroad freight can save the carriers close to $200 million a year, E. W. Coughlin, manager, Railroad Relations Section, Association of American Railroads, stated at the March 14 meeting of the Great Lakes Regional Advisory Board at Cleveland, Ohio. Mr. Coughlin told the shippers that full cooperation to load cars as heavily as practicable—in those instances where heavier loading would not adversely affect the shipper—could produce savings of $22 million annually. By complete unloading of cars, he estimated that an additional $30 million saving was possible. Analyses of some thousands of cars cleaned by railroads, he said, indicate that the consignees could have completed unloading for an average of less than a dollar a car, whereas, with the costs of switching and car-days lost, the average cost to the railroad exceeds $10 a car.

If about 10 per cent of the empty car-miles were eliminated by better observance of car service rules—selecting cars for loading to or toward the owner roads—at a cost of five cents an empty car-mile, the carriers could save $55 million. Mr. Coughlin said. Freight claim prevention—careful packing, marking, billing and handling—could produce savings of $60 million.

Robert J. Bayer, editor of Traffic World, attacked wastefulness, too, and called for "reacquirement of the old American virtue of thrift." Most transportation companies still conduct their claim prevention activities as incidental side-work of claim settlement, Mr. Bayer declared. "The nationwide Perfect Shipping Campaign," he said, "is being conducted with a paltry few thousand dol-

lar appropriation." He suggested "that a five-year plan be evolved under which each railroad should contribute to a general claim prevention fund a stated percentage of its previous year's claim total—say five per cent. Half of that could be returned to the railroad for use in its own area . . . in a program integrated with a national plan on which the other half would be spent by an agency set up by the A.A.R."

C. A. Skog, vice-president and general manager of the Grand Trunk Western, reported, for the railroad contact committee, that there had been much improvement in l.c.l. service in the board's territory by operation of more fast-scheduled merchandise trains; by use of more overhead cars; by drayage of l.c.l. between freighthouses in larger cities, and by overtime work and six-day operation of transfers.

Southern Rate-Pact Hearing Now Set for April 18

The Interstate Commerce Commission has postponed, from March 21 until April 18, the hearing to be held at New Orleans, La., in connection with its consideration of the Bulwinkle-Act agreement filed by southern railroads. The proceeding is docketed as Section 5a Application No. 6, and the hearing at New Orleans' Jung hotel will be conducted by Commissioner Rogers and Examiner Burton Fuller.

New Rooms for Overnight Travel on P.R.R. Top 3,200

More than 3,200 new private rooms are now available for overnight travel on the Pennsylvania, according to "Train Talks," the railroad's occasional informative leaflet to its patrons. Varying widely in size and arrangement to meet every travel need, with modern conveniences and complete privacy, the rooms are available on 190 new sleeping cars which the Pennsylvania has in service on its through trains.

N.I.T. League Split on L.c.l. Rate Increases

Members of the National Industrial Traffic League met in St. Louis on March 8 to consider, among other items, a "compromise" proposal of the eastern railroads with respect to increased l.c.l. rates and charges in reopened proceedings in I.C.C. Docket No. 29770. After four hours' discussion of the carriers' modified suggestions, the League's membership voted that its transportation outlook and policy committee—which negotiated the compromise proposal with the carrier traffic executives—join with the league's l.c.l. committee and attempt to work out counter proposals which might be used as a basis of further negotiation with the carriers. Objections to the modified proposals were voiced principally by shippers who handle a large volume of parcels weighing under 25 lb.

Latest revised carrier proposals in No. 29770 and modifications proposed to

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For the Union Pacific, Merritt-Chapman & Scott constructed 8 miles of railroad including 6 grade separation structures and this 11-span bridge at Long Beach, Calif.

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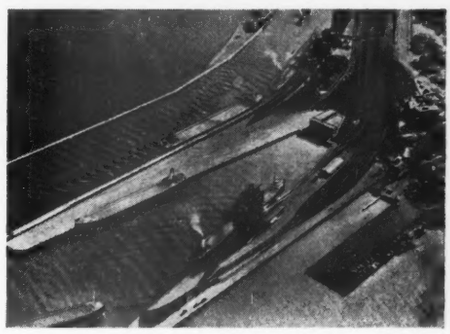
For the Baltimore & Ohio, Merritt-Chapman & Scott constructed two new coal transfer docks, new coal dumper foundation, dredging and fill, and a new railroad yard at Lorain, Ohio.



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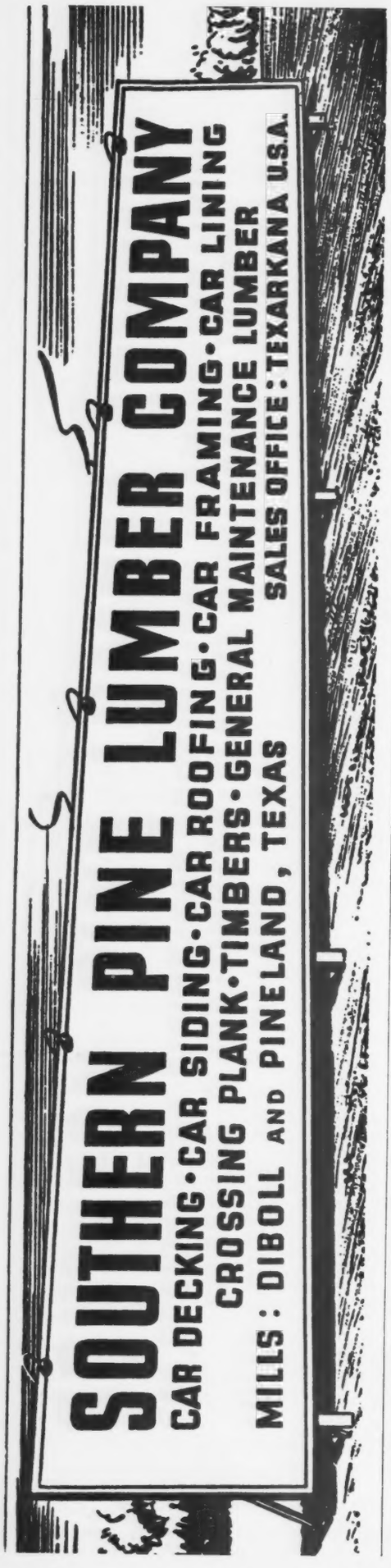
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the league by the railroads, respectively, are as follows:

(1) Scale for first class rates by distances, providing for an increase of 90.5 per cent over class rates and 106.9 per cent over exception ratings on a distance of 5 mi.; 2.8 per cent and 10.7 per cent, respectively, for 560 mi., etc.

(a) (modified) Would apply present interim 28300 scale, providing for no increase in class rates, and an increase of 8.6 per cent in exception ratings on a distance of 5 mi., an increase of 7.7 per cent on 560 mi., etc.

(2) Minimum charge to be based on first class rate for 100 lb., but not less than $2.25 (present minimum is $1.43)

(a) (modified) Minimum charge to be based on the applicable rate for 100 lb., but not less than $2

(3) Minimum rate of $1 per 100 lb. when pick-up or delivery service is performed (present minimum is 72 cents)

(a) (modified) No change in present 72-cent minimum

(4) Minimum weight of 25 lb. to apply to each package, or piece, regardless of weight of shipment

(a) A charge of 10 cents per package, or piece, to be made in addition to transportation charges, for any package, or piece, weighing under 25 lb.

The I.C.C., at the joint request of the railroads and the league, had postponed reopening No. 29770 from February 21 to April 25 so the modified proposals might be submitted to the League membership. Modified points (1) and (3), above, were generally acceptable to members present at the St. Louis meeting. There was a strong faction opposed to (2), and the view of those dissenting appeared to be that the minimum should not exceed $1.50. Fully half the membership appeared in strong opposition to (4), citing the increased cost to shippers whose trade demands shipments in small packages; the difficulties in billing; the inability—in many cases—to consolidate small packages into unit loads, and fear that possible future needs for additional revenue would bring about an increase in the 10-cent charge. An alternate suggestion was for a 5-cent charge on shipments weighing less than 15 lb.

Delta Nu Alpha Chapters Hear Traffic, Rail Speakers

Development of traffic management as a true profession with increasing responsibilities was emphasized by Alonzo Bennett, vice-president, traffic, of the Federal Compress & Warehouse Co., Memphis, Tenn., at the recent annual banquet of the University of Tennessee chapter of Delta Nu Alpha transportation fraternity.

"The ethical standards in transportation and traffic management are high, and are improving," said Mr. Bennett, who is also regional vice-president of the American Society of Traffic and Transportation. "A spirit of public service is evident to anyone who is brought into close contact with transportation and traffic men," he added, citing as an example "increasing cooperation between shippers and carriers."

The University of Virginia chapter of Delta Nu Alpha recently heard E. C. Gegenheimer, public relations director of the Pennsylvania, outline career opportunities in transportation. "The continued ability of America's railroad plant to meet any national emergency," Mr. Gegenheimer said, "rests on a national policy which will afford the opportunity . . . to meet competition, the requirements of the people, and above all the demands for national protection against aggression . . . What is needed is a 'Fair Play Commission' for the railroads if they are to continue virile and strong and not over regulated."

Nationalization of railroads is inevitable unless they are permitted to earn sufficient profits to develop their facilities and replace obsolete equipment, and can lead only to nationalization of all forms of transportation, E. H. Taylor, special representative for the Federation for Railway Progress, told the fraternity's Buckeye chapter, at Cuyahoga Falls, Ohio, on March 15.

The developing economy of America will allow enough business for all forms of transportation, he said. "But if the railroads are to perform the heavy duty in peace and war which the American people have a right to expect them to do, there must be a single government agency regulating all forms of transportation under a single policy, and there must be provision in that policy for railroads to consolidate where railroad men deem consolidation beneficial to the public interest."

Passenger Service Nearly Back to Normal

Almost without exception the nation's railroads have restored to normal the service curtailed under the recently cancelled Interstate Commerce Commission Service Orders 845 and 846 which were promulgated during the recent strike of bituminous coal miners to conserve the nation's then rapidly disappearing visible coal supply (see *Railway Age* of March 11, page 96).

The Atlantic Coast Line reports that all passenger trains have been restored to previous schedules. The Canadian National has fully restored its passenger service. All steam passenger service suspended by the Delaware, Lackawanna & Western and the Jersey Central Lines has been reinstated. The New York Central restored 54 trains, accounting for about one-half the train mileage canceled previously. The restoration is the full amount permitted under the I.C.C.'s Amendment No. 3 to Service Order 846 which requires railroads with less than 10 days' supply of coal to maintain a 25 per cent reduction in steam passenger mileage. The Central's system-wide coal supply is only 5.4 days, based on present rate of operations. Service has been returned to normal on the New York, New Haven & Hartford, the Pennsylvania, the Seaboard Air Line and the Erie.

A few midwestern lines were entirely unaffected by the curtailment orders, either by virtue of 100 per cent Diesel operation, or adequate coal supplies for services handled by steam power. Diesel power permitted the Atchison, Topeka & Santa Fe, the Gulf, Mobile & Ohio,

and the Pere Marquette district of the Chesapeake & Ohio to maintain all passenger services throughout the coal crisis.

Electrified suburban services in the Chicago area suffered only slight reductions as the Chicago North Shore & Milwaukee, Illinois Central. the Chicago, Aurora & Elgin and the Chicago South Shore & South Bend lines had reduced the number of cars on their trains and reduced lighting and electric heating in the remaining cars to conserve electric power. Normal service on these four roads was restored almost immediately following the I.C.C. modification amendment.

Steam powered suburban service of the Chicago & North Western and the Chicago, Milwaukee, St. Paul & Pacific, which had been reduced both by service cuts and train consolidations, was completely normal by March 14, except for some weekend trains on the North Western. Chicago, Rock Island & Pacific service, being partially Dieselized, was not so heavily affected, and all trains were restored by March 15. The Chicago, Burlington & Quincy had made no suburban service cuts because of extensive use of Diesel power, and service on the Chicago & Western Indiana returned to normal on March 15. The Wabash had cut its Chicago-Decatur local train back to Orland Park to cover only the suburban territory. Full operation was restored on March 12, at which time the road also restored its St. Louis-Des Moines service to a daily basis (this being the only other passenger train reduction by the Wabash).

The Baltimore & Ohio restored 27 trains over the entire system, and the remaining 11 will be restored on March 19. The Minneapolis, St. Paul & Sault Ste. Marie restored all service to normal on March 12 and 13, a number of trains having been reduced to a "weekday only" or tri-weekly basis. Service on the New York, Chicago & St. Louis between Lima, Ohio, and Peoria, Ill., returned to normal on March 14. The "LaSalle" (westward) and the "Inter-City Limited" (eastward) of the Grand Trunk Western, as well as almost all local service, operated normally again March 11. The Chicago & Eastern Illinois (which had made no main line curtailments) had restored almost all secondary service by March 13.

The I. C. is faced with a somewhat different problem, as all of its freight service is steam powered, and its coal was reduced to a four-to-five day supply at the time the I.C.C. orders were initially modified. Twenty-five per cent of its steam passenger service still has not been restored although the bulk of these trains are of a secondary nature. Presently, the I. C. has a seven-to-eight day supply of coal on hand, and it is not anticipated that the remaining 25 per cent of its steam passenger service will be restored until a much more adequate supply of coal is available for freight requirements. Among trains affected is the "Iowan" from Chicago, which had initially been cut back from Fort Dodge, Iowa, to Freeport, Ill., and later removed from service entirely.

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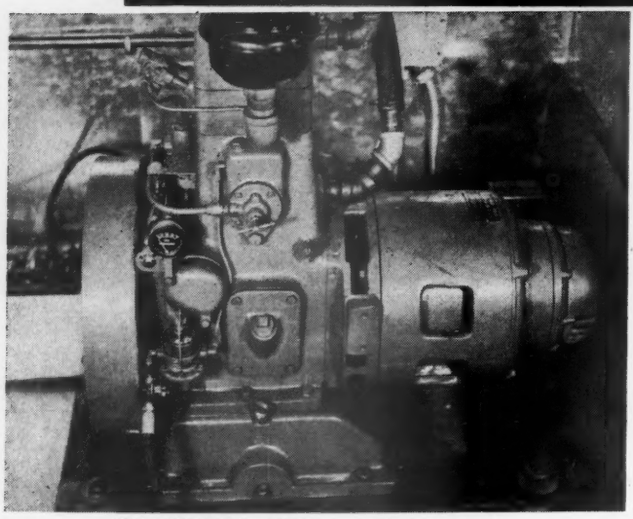

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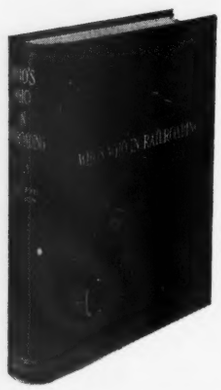

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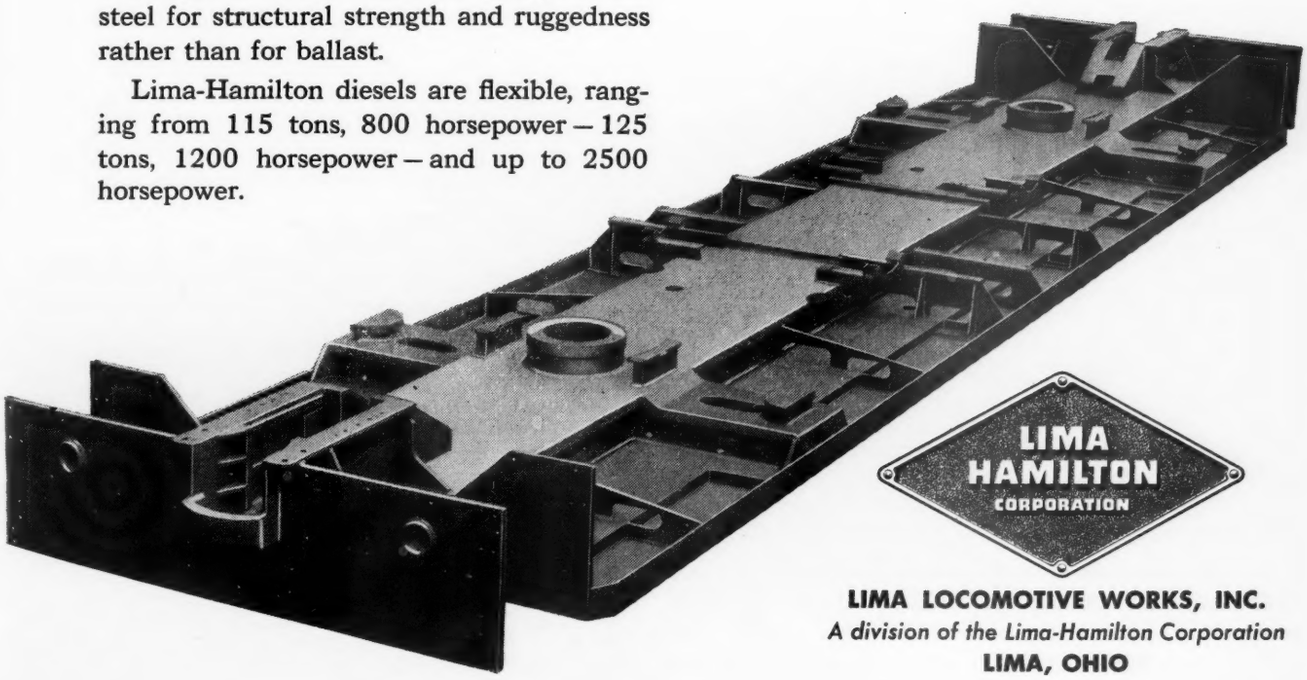

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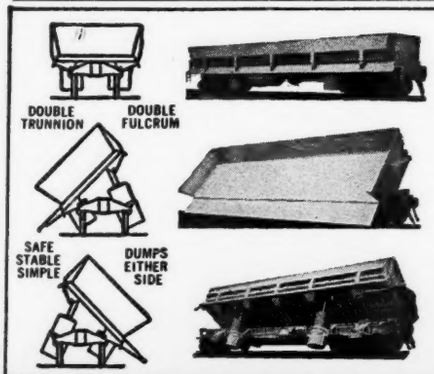

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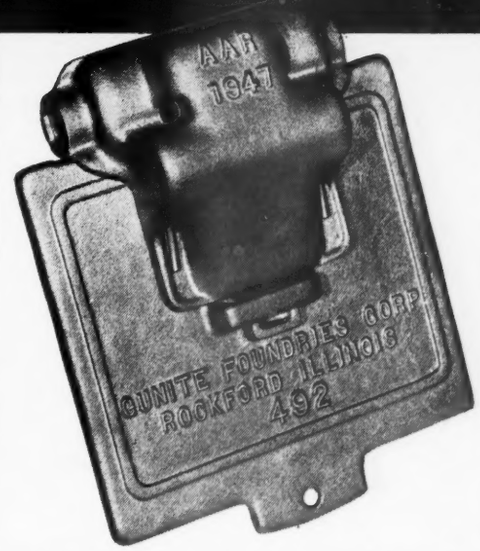

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